

With Dr. Wilks, Compt

(3)

ON THE  
SYPHILITIC AFFECTIONS  
OF  
INTERNAL ORGANS.

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THE syphilitic affections of the internal organs of the body constitute a subject which is comparatively novel, and one, therefore, which is still open to further investigation. Although it is but a few years since specimens illustrating it were received with more than incredulity by the profession, yet so strong has been the evidence in favour of modern observations, that few pathologists now retain any doubt about their general truth. Scepticism, however, does still largely prevail. It is the knowledge of this feeling which has mainly prompted me to the publication of the following cases, for these will place in a clearer light what amount of evidence a large institution can produce in favour of the facts which are wished to be promulgated. They will show sufficient, I think, to prove the doctrine, and at the same time will make it appear that the syphilitic diseases of the internal organs are not of daily discovery at Guy's Hospital, as has been surmised.<sup>1</sup> Some surprise, indeed, may be evinced at our poverty rather than our richness in illustration of the subject, especially as I have

<sup>1</sup> A very similar exaggerated notion prevails in reference to Addison's disease of the supra-renal capsules. Those who are unbelieving as to its existence come to Guy's, and expect to be shown half a dozen cases in the wards, when they ought to know that scarcely double that number has ever occurred in the hospital.

introduced a number of cases which may be considered equivocal. I have done this, however, for the sake of putting all the facts which have come under my own notice before the reader, so as to avoid placing the doctrine on any false basis, by omitting doubtful instances and selecting favorable ones. The whole subject is not yet sufficiently worked out to enable me rigidly to form a theory from it. Although I think that the report, standing as it does, is quite sufficient to prove the great fact which is wished to be inculcated—that the syphilitic affections are more widely diffused through the system than was until lately ever conceived to be the case.

It is necessary to allude to the scepticism which prevails upon the subject, and the reason for this, because herein will be found an explanation why it has been left to modern times to more thoroughly reveal the nature of syphilis; also in order to refute an opinion held by some, that its very novelty is an objection to its reception, since the disease under consideration is one which more than any other has been studied for centuries by men of note. The explanation of the disbelief, however, is so simple, and so clearly traceable to one cause, that the mere novelty of the observations can have no weight against their general reception. The reluctance to their admission is referable to the partial manner in which syphilis, as well as many other diseases, has hitherto been regarded, and is clearly owing to the division of our art into that of medicine and surgery; the result being, that when a disease which affects the whole body is regarded exclusively either by the physician or surgeon, it is necessarily looked upon in a partial light, and from one particular point of view, instead of being regarded, as it should be, in its integrity. Thus it has happened that many pathological subjects, such as pyæmia, cancer, &c., have been studied in too narrow a field, because either the surgeon or physician has regarded them from his own stand-point. This is eminently true of syphilis. In this disease, when the virus has entered the system, there appears to be scarcely a tissue which may not be affected, and always in one particular and characteristic manner. Knowing that many parts of the body were thus affected, all *à priori* reasoning might have led our ancestors to the supposition that even internal organs might be involved in a similar

process ; but not regarding these they, of course, remained in ignorance ; at the present day, however, when no such excuse exists, and the interior of the body is more thoroughly examined, some surprise must be expressed at those who still remain incredulous. The reason, however, for whatever scepticism remains is, I repeat, clear, and is due to the surgeon having hitherto been the principal observer in venereal disease.

This is said with no feeling of disparagement to the professor of that branch of our art, for the division of the latter into that of medicine and surgery will always probably be most convenient in our large towns ; but, nevertheless, with all its paramount advantages, there are drawbacks arising from the separation, for a moment's consideration will teach us that many of our ailments cannot be divided into external and internal, as we artificially consider them to be ; and, consequently, that if looked upon from this or that point of view exclusively, a very erroneous and partial conclusion must be arrived at concerning them. This appears to be the obvious and simple explanation of the internal syphilitic affections having been so long overlooked.

Hitherto, then, it has been said that every part of the body which could be seen, handled, or was able to present any outward signs of disturbance, might be affected by syphilis ; and it was only now and then that a shrewd observer had his suspicion raised with regard to the contamination of internal organs.<sup>1</sup> Thus it is that the older writers have spoken of affections of the skin, with its appendages, as the hair and

<sup>1</sup> The ordinary well-known effects of syphilis on the body, as recognised for centuries, are nearly all embodied by our great poet in the lines which he places in the mouth of Timon, when addressing the mistresses of Aleibiades :

“ Consumptions sow  
In hollow bones of man : strike their sharp shins,  
And mar men's spurring. Craek the lawyer's voice,  
That he may never more false title plead,  
Nor sound his quillets shrilly : hoar the flamen,  
That scolds against the quality of flesh,  
And not believes himself : down with the nose,  
Down with it flat ; take the bridge quite away  
Of him, that his particular to foresee,  
Smells from the general weal : make curl'd pate ruffians bald ;  
And let the unsearr'd braggarts of the war  
Derive some pain from you.”

nails; of diseases of the bones, especially those which might be felt during life; of inflammation of the eye, but only of the iris, &c.; also of the interior of the mouth, as far as vision could reach; and what is remarkable, some at a very early period, alluded to disease of the testes, which, it must be remembered, are really viscera, although placed in man external to the body. As far, then, as he looked, the surgeon in former times perceived the effects of the syphilitic virus; but it is now maintained that, in consequence of the more frequent practice of post-mortem examinations, the extent of the influence of syphilis is only commensurate with the tissues of the body, and that, therefore, internal parts of the organism may be affected as well as the external.

I would rather have been content with the simple report of our cases than have prefaced them with these remarks, but have thought it absolutely necessary to do so in order to afford an explanation of the apparently remarkable fact, that the subject before us, taken as a whole, is a modern one, a fact which might be used, as it has already been, as an argument against its truth. The explanation, I say, is necessary, as affording the clue to the previous want of knowledge and the modern scepticism.

I would therefore insist, *in limine*, in reference to this subject, that the whole of the modern theories have been mainly in the direction of discovering a wider extent of influence for the venereal virus, and have not, as some have supposed, tended to the establishment of a syphilitic cause for various well-known internal diseases. The modern doctrine simply maintains that the internal organs may be affected equally with the external; that not only the cranium, but the brain within it, or the nerves; not only the muscles of the limbs and tongue, but the heart; not only the pharynx, but the œsophagus; not only the larynx, but the trachea, bronchi, and lungs; also the liver, spleen, and other viscera.

*The peculiar effects of syphilis on the system.*—In syphilis there is a disposition to the effusion of a low form of lymph, or fibro-plastic material, in nearly every tissue of the body, occasionally modified in character to a slight extent by the organ in which it occurs. Consequently in those who have died suffering from this disease there is scarcely an organ but what may

be found affected in this particular way. In solid organs, or in the interior of the tissues, there is found a more or less circumcribed deposition of an albumino-fibrous material, whilst on the surface of the body a similar material may constitute merely the base and border of an ulcer; for just as eaneer and tuberele, in their own peculiar diatheses, show themselves as masses of disease in the solid organs, and as ulcers in the skin or mueous membrane, so in syphilis the visseera may be found full of the syphilitic material, whilst on the pharynx, larynx, &c., an ulceration may also exist.

*What is meant by primary, secondary, and tertiary syphilis.*—The above-mentioned deposit, I say, takes place in constitutional syphilis; but writers have hitherto divided the latter into secondary and tertiary, and therefore some remarks will be necessary in order to discover what these terms signify, and so clear the ground for our further observations. In the first place, it may be said that no subjeet of medieine is more confused than this, no two writers agreeing as to what are the secondary or what the tertiary effects of syphilis, the division being evidently an artificial one, this want of precision even sometimes necessitating in their writings the desription of the tertiary before the secondary, and even obliging us to recognise tertiary symptoms in the new-born infant, and which, of course, must have allowed a very rapid progress of the previous stages. The only point in common with most writers is this—that since tertiary symptoms follow secondary, all affections which succeed in a few weeks or months to the introduction of the virus are called secondary, and those which are observed when the patient's system has been thoroughly imbued with the poison, and is suffering a eaehexia in consequence, are styled tertiary. Thus, some forms of eruption, as the sealy and papular, are called secondary, whilst others, of the vesicular and eethymatous kinds, are named tertiary. Some writers have said that whilst the effects of syphilis are confined to the external parts the disease is secondary, but if to the internal and deeper the disease is tertiary; but this is only saying that whilst the patient is alive and under notice we style his symptoms secondary, but if he dies it is an evidence that he must have passed through these, and therefore all the morbid conditions then found are necessarily tertiary—a most indefinite

and unscientific arrangement—a mere employment of terms which time and use had caused writers to venerate, without a just discrimination of their value.

Thus, if effused lymph on a bone be called a secondary symptom, and effused lymph of the same character in the liver a tertiary condition, as is very often done, it is inferred that the latter affection occurs at a much later period than the former, but this is altogether an assumption, and founded simply on the fact that the one is necessarily discovered at a much later period than the other, and so it is with many other of the morbid conditions met with. The error arises from the difficulty of determining whether a deposit found in the dead body is to be regarded as denoting the existence of some morbid condition occurring about the time of death, or is merely the result of a state long past and now eradicated; that is, there is a difficulty in deciding as to the age of such a deposit of fibro-plastic material of which I have spoken. For example, an enlargement over the tibia, suggesting a syphilitic node, may be either the result of a recent infection or of a disease whose virulent nature has long passed; to which of the two the case belongs the history must divulge; but because this has not disappeared when the patient dies of the so-called tertiary disease, the node must not be regarded as tertiary in its character. As regards the internal organs, however, there is more difficulty in deciding, since the history may often fail to guide us, for it has yet to be learned how far the occurrence of these deposits is attended by evident symptoms; for example, it may be found, by further observation, that the production of a syphilitic albuminous material in the liver may be attended by some hepatic disturbance, but as yet there is no proof that such is the case, since in some instances, as that of the testes, such deposits may arise without accompanying symptoms. If, then, this be true, and we are unable at present to determine at what time they occur, it is altogether an assumption to name these internal affections tertiary, since, when the patient has died in consequence of syphilis, he of necessity has been ailing for a very long period, and has reached, at the time of his death, that stage which is usually called tertiary. By the same method of reasoning, should a node on the bone not be observable, because not on the exterior of the body, but first

brought to light after death, it ought to be placed amongst the tertiary symptoms. The fact seems to be that, owing to the peculiar nature of the deposit which is thrown out, a part of it only admits of absorption; the remainder, becoming dried up into a hard mass, continues for the remainder of the patient's life. Whilst, therefore, the time of the occurrence of such internal depositions is hidden, but since the latter are seen to resemble those which are known to take place during the so-called secondary stage, there are good grounds for supposing that the one occurs at the same period as the other, and under the same circumstances and influences. This is a more just inference than the one usually adopted—that the internal are necessarily of later occurrence than the external deposits, because not found until after death.

It is important to determine thus accurately what are the effects of constitutional syphilis, for then we shall be better prepared to understand what is signified by tertiary syphilis. It is not my desire to enter on any question purely in the province of the surgeon, but looking at the subject from a medical point of view, or rather pathological, and without any bias derived from the practice of a special department of the profession, I should say that whilst the system is still contaminated by the syphilitic poison there is this disposition to the production of lymph; and also the converse—that the discovery of such disposition existing must be regarded as evidence of the presence of the venereal virus.

*If constitutional syphilis be styled secondary, what is meant by primary syphilis?*—The first sore on the surface of the body is said to constitute the primary disease, and if this sore be not readily healed and the system be contaminated, secondary symptoms are said to result. The consequence of such a definition is that primary syphilis is not syphilis at all. This is in accordance with the modern theories of simple non-infecting sores, and is quite in agreement with the long-standing idea of the physician, who has never regarded syphilis other than a constitutional disease, any more than he has declared a patient to be suffering from smallpox or hydrophobia if an attempt at inoculation had been made, but the virus had not taken (as the common phrase is), that is, the system not affected. As then he did not say, when his patient was inocu-

lated, that he had primary smallpox and afterwards secondary smallpox, so he never considered a patient to have syphilis unless there was proof of his system having been affected. No medical man, I say, ever placed in his notes of the history of a case that his patient had had the venereal disease because he informed him that he had several times had sores. These views, long held, are now being taught and explained in a more systematic manner by the surgeon, for now, according to Ricord, a sore no more means syphilis than the bite of a mad dog means hydrophobia, unless the system be infected; moreover, that the peculiar deposition of fibro-plastic elements, of which I have spoken taking place in the chancre, is a sign in itself that the system is affected. The surgeon, therefore, at the present day divides the sores, according as an induration exists or not, into infecting and non-infecting, although the character of the former can only be decidedly pronounced after a certain period, for should it be destroyed at once by caustics or other means no infection would result. Let it, however, continue for a few days, and an induration appear—this is itself evidence of the system being already contaminated. Accordingly, as Ricord says, induration of a chancre is not to be regarded so much as the origin or cause of syphilis as a consequence of the constitutional affection. It is less a *cause* than an *effect*; the induration which subtends the base of a chancre is but a kind of local reaction of the general poisoning; it is, so to say, the first of the secondary symptoms; the indurated chancre is but the prelude to a diathesis, and this is syphilis. The compiler of Ricord's lectures quotes a remarkable passage from Ambrose Paré, to the following effect:—"If there is an ulcer on the penis, and if the part is hardened, it will be an infallible sign that the patient is affected with syphilis." I cannot, therefore, but think that if surgery had sought the aid of pathology in the dissection of syphilitic patients, that these important truths would have been long ago arrived at and adopted; but at length, even as regarded from a narrow point of view, the subject appears to be unfolding itself in accordance with the ideas evolved from a larger sphere of observation.<sup>1</sup>

<sup>1</sup> If it be true that syphilis is a constitutional disease, and requires appropriate treatment, it would show that it is a malady coming as much within the province of the physician's as the surgeon's practice, or at least after the first week of its occur-

In constitutional syphilis, then, there is seen this disposition to the production of lymph, and beginning first of all in the chancre itself. According to Ricord, if a person is inoculated, about the fifth day the subjacent tissue becomes infiltrated by a plastic lymph, which produces to the touch the peculiar hard and elastic feeling. Previous to this, if the sore be destroyed, the system is not affected ; as, therefore, the term primary, in its strict sense, can only be used for a short period, it would be adopting a more precise nomenclature if this term and that of secondary were abolished, and the simple term syphilis be used instead. This, however, would seem to imply that, whilst the patient has a disease which can be simply styled syphilis, some virus must still exist in his blood or elsewhere. That some morbid state exists is proved by the symptoms and by the disposition to the effusion of lymph before mentioned ; but whether a true venereal poison is present, which is capable of propagation, is still a question. With the writings of so eminent an authority as Ricord before me, one would fain hesitate before expressing a contrary opinion to his ; but, in spite of the weight of his name, I cannot but think that the evidence is very strong in support of the view that, whilst constitutional effects are seen in the system, the virus is still active. That it is capable of propagation, under certain circumstances, requires no proof here ; for the fact of a father tainting his offspring, or a child its nurse, are facts to be observed every day. The latter fact I think clearly proves that it is only the absence of favoring circumstances which prevents contagion being more frequently seen, for let a discharging surface come in contact with an abraded part or a mucous membrane, and the contamination would, I believe, be at once observed, many facts tending to prove the position. The wide-spread contamination which may occur from the suckling of syphilitic children has been proved beyond doubt by Diday, whose work is now in the hands of every medical man. This writer says, "I could quote certain villages and cantons in which venereal

rene. Such an opinion was held by my late colleague Dr. Addison, who, although studiously obsequious in all matters relating to medical practice, always maintained that syphilis, being a constitutional disease and requiring mercury, was one which he never refused to treat from the first day of inoculation. This is a practice, however, not to be inculcated if the virus can be immediately eradicated by local means.

disease is unknown. A nursling arrives, and the plague at once breaks out. Perfect health of the population until then ; from that moment syphilis attacking almost epidemically the nurse and her family, the husband, children of three or four years old, old women of sixty, and extending to two generations in each direetion." To show that such opinions have always existed in the minds of some in our own country, I will give from Dr. Copland a passage as quoted by Dr. Elliston in connection with a case which the latter publishes in proof of the contagious nature of the so-called secondary stage :—" I have ever had sufficient reason to conclude that, whenever a secondary venereal ulceration seated in the integuments or mouth or throat produces a secretion or discharge which comes in contact with a mucous surface, or with an abrasion of a cutaneous surface, or is even allowed to remain in contact with an unabraded surface, infection is liable to take place, and that this liability exists both in children and in adults. The communicability of secondary syphilis, especially when the sores have proceeded to secrete a fluid exudation, was a well-recognised fact in former times, and has been witnessed by myself during the course of my experience in several instances. It was a recognised fact by Dr. Colles ; and although Hunter believed that secondary symptoms could no longer infect, Mr. Babington remarks, when commenting on this belief, that 'the facts (that they do infect) are so well established, that it is more easy to question the principle than to doubt the facts.' This mode of communicating the malady was often observed in all the varieties of it described as syphilitic diseases, and in the usual manifestations of the malady from the end of the fifteenth century to the close of the seventeenth century, or even later." It is impossible here to quote examples in proof, or more authorities ; but I am inclined to the opinion that, whilst there is seen to be a disposition in the body to the production of a fibro-plastic material, and therefore a state remediable by remedies such as mercury, that a virus exists in the system which is capable of propagation. How long this may endure, or may be modified by time, are very important questions of another description which require solution.

*What is meant by tertiary syphilis.* — If the so-called secondary syphilis, or that which is simply syphilis, possesses

certain characteristic phenomena, we have a means of recognising its existence ; and if, therefore, we find such phenomena classified amongst the tertiary or ulterior changes of the disease, we must replace them in their proper position. Writers, however, have not only spoken of changes already alluded to, as being sometimes secondary and sometimes tertiary, but they have referred to other totally different morbid conditions under these names, and which, therefore, clearly require separation. These I should regard as the ulterior results of syphilis, not immediately dependent upon it, although induced by it. They are different from the peculiar effects of syphilis already spoken of, and can only be regarded as the sequelæ. Any form of cachexia, indeed, may produce them, although it is especially those parts which have been in the first place affected by syphilis which suffer, and thus it is not so much the character of the change which denotes the syphilitic origin as the site of the disease. Thus, the bones are affected in syphilis in a manner which is generally characteristic ; but if from any cause the patient fall into a bad state of health, an extensive caries or necrosis of the ordinary kind may result. The first change is syphilitic, the second is a sequela of syphilis. Several cutaneous affections resembling these sequelæ may occur under various circumstances, as, for example, ecthyma and rupia in impoverished strumous children. So also the syphilitic disease of the larynx may proceed under certain circumstances to disease of the cartilages, but the latter may occur independently of the syphilitic taint. Besides these aggravated diseases, arising in organs first affected under the influence of the venereal poison, but which have ceased to be syphilitic, and therefore to be regarded as the sequelæ rather than results of a tertiary stage, there are other changes in the organs which have received a considerable share of attention of late years. I refer to the lardaceous or waxy disease of the viscera.<sup>1</sup> In persons who have been worn out by syphilitic

<sup>1</sup> See, in reference to this subject, a paper in the 2nd volume of the present series, of this work. One author, not content with showing that this lardaceous change is a frequent consequence of syphilis, has been inclined not only to connect it intimately with the disease, but has pretended that the indurating material of the chancre is changed blue by iodine, in the same manner as it is asserted that the lardaceous material is. With reference to this, I need scarcely repeat the statement

disease, and been suffering long from a resulting cachectic habit, such state of organs may be very fairly predicted to be present; but they are by no means evidence that syphilis has existed, since they occur in cachexia arising from other causes. They are constantly found in young scrofulous subjects, who have been long ill with some local disease, as of a joint or a bone, and therefore cannot by any means be regarded as connected essentially with syphilis. The latter term should, therefore, be altogether removed from that form of affection in which they are found to exist. If the cachexia under which they occur be induced by syphilis, then let the cachexia be regarded as the sequela, and not styled the tertiary stage. Should, however, writers wish to retain the latter term, let it be strictly confined to this condition, and not made to include that in which the results of true syphilis are also found.

The subject, therefore, frames itself to my mind in this way: that the so-called secondary syphilis should be simply styled syphilis, and that the disease is known to exist so long as certain phenomena occur, these being exemplified more especially by the exudation of lymph in the various tissues of the body, thus showing that a morbid action is still in existence, and, according to some authors, a virus capable of being propagated in various direct and indirect manners. This virus may be exterminated by remedies, or may wear itself out, and the patient recover his health; but not infrequently, as a consequence of the vitiation which the constitution has undergone (although the syphilitic poison may itself have disappeared), a morbid state of system may have been produced, tending sometimes to a fatty degeneration of the various structures of the body, but more especially to that change known as the lardaceous or waxy. This might with more propriety be called the second stage, or, if preferred, the tertiary stage, but one to be distinguished from the preceding, inasmuch as the virus was then still present, whilst in the latter it has departed, the changes in the tissues being attributable to the cachectic condition, and therefore not unlike what may arise under other circumstances. Such a division of the disease into syphilis and its sequelæ is

made in the above-named article, that all proof is wanting that the material is *amyloid*; indeed, the recent investigations of Dr. Montgomery seem to prove the correctness of Meckel's suggestion, that it is *cholesterine*.

one which I have long proposed to myself, finding it a simple one, and warranted by clinical experience as well as by pathological research.

The post-mortem discoveries of the combination of the results of the secondary and tertiary stages should present no difficulty, since much of the albumino-fibroid material formed in the true syphilitic stage is incapable of absorption, and remains during the life of the patient. Deposits of this kind may, therefore, be found in the livers of those who have quite recovered from the disease, and may have died many years afterwards of an independent malady, or may be found in those who have succumbed to the ultimate effects of syphilis in the so-called tertiary stage. Because they are discovered in co-existence with ulterior changes, they are not, therefore, to be regarded as necessarily of the same age with them; for example, a lardaceous liver with fibroid deposits in it is rather to be looked upon as an exemplification of two distinct morbid phases, than showing occurrences of the same period. This explanation will remove many of the difficulties in the way of separating the stages of the disease, but not hitherto made quite clear, because amongst syphilitic subjects the greater number would be found dying at the later periods than at the earlier ones, and therefore all internal affections would be placed in connection with that stage in which death took place. All experience and analogy, however, would show that these affections arose at an earlier time, and been merely carried on to a later period when they were made manifest to the eye.

I would not go so far as to draw in every case an absolute line between the secondary and tertiary stages, nor to say that because ulterior changes had commenced that all secondary had been removed, for in cachectic patients, in whom it could not be said that degeneration of the tissues had not commenced, it would seem sometimes as if syphilitic taint had also not quite disappeared.

*Effects of mercury.*—The present subject involves so many considerations that it has been found impossible to neglect them, and amongst others there is the question relating to the effects of mercury. At no time are the consequences of syphilis discussed by members of the profession but the effects of long-

continued mercurial administration are associated with the question. For this there seems good reason, although the opinions held regarding it are apparently most conflicting, some of the older school maintaining that the prolongation of our cases at the present day is due to a less abundant use of mercury in the attempt to cure the disease locally, whilst many of the modern school refer the ravages of syphilis of former days to the universal and too free administration of the drug at that period ; they point to the caries and necrosis of the bones, shown by the destruction of large portions of the cranium, as evidence of the superiority of the later to the older method. These statements are probably both correct, and by no means incompatible. It will be perceived that it is assumed that the effects of syphilis and mercury are alike, and therefore it may be asked whether the question could ever arise were we properly acquainted with the peculiar effects of each. I believe there are many eminent men who hold the opinion that some of the worst forms of disease observed in syphilitic patients, especially the necrosis of bones, are due to mercury,<sup>1</sup> and thus the greater frequency of this form of disease in by-gone years, when this metal was more freely and more indiscriminately administered. But how is this to be reconciled with the fact that mercury does not affect the bones ? Experiments have been made repeatedly on animals, and all observers have agreed that the bones are not affected by the drug. Moreover, mercurialism is continually produced in artificers in quicksilver ; of such I have seen several cases, where paralysis had existed so as to deprive the patient of locomotion, where the mind also has been impaired, and, in fact, the whole body undergoing decay, and yet the bones had escaped. It has been said also that mercury produces other effects resembling those of syphilis, but of this there is even less proof. The opposite of such statement I believe to be nearer the truth, the tendency of syphilis in the constitution being to the production of a plastic lymph in the tissues, whereas the effects of mercury are the very reverse ; they are, indeed, antagonistic, tending to the absorption of new tissue, if such exist—and if it do not, to the

<sup>1</sup> I believe I am right in saying that this is the opinion of my respected colleague Mr. Cock, as it was also of the late Dr. Addison.

destruction of the old. In syphilis there is a formative action, in mercury a destructive one.

I think all such contradictory opinions to which I have alluded are clearly explicable if the division of the subject according to the secondary and tertiary forms of the disease be strictly maintained, or rather, as I would have it, into syphilis and its sequelæ. The former, or secondary, shows the effects of the virus in the albuminous deposition, whilst the tertiary exhibits the degeneration of the tissues due to the morbid action so long in process. Mercury is antagonistic to the first, but in unison with the second. It does not produce symptoms like those of the former, but only of the latter; but these are not syphilitic at all, but due to aæhexia merely. Mercury, therefore, is antagonistic to the syphilitic condition, promoting the absorption of the lymph, which is prone to be thrown out, but is at the same time a powerful poison, acting probably on the blood, producing anaemia and tending to a degeneration of the tissues. It must be evident that, either from the nature of the original poison or from some peculiar constitution of the patient, a powerful medicine like mercury may have exerted all its powerful influence, and beyond this have been injurious. If, therefore, a caries of the bone exists, which, corresponding to a true ulceration of the syphilitic kind, exhibits a depression in the centre, with a deposition of new bone around, we know that this will heal in time, and few, I think, will deny that mercury at one time may not be beneficial; but should the caries progress beyond this stage, and lose its characteristics in consequence of some general constitutional disturbance, nothing would be more likely to accelerate its progress than mercury. In a word, I consider that in the true syphilitic caries of the bone presently to be described mercury is useful; but if disintegration commences, above all remedies it would be harmful. The two statements, then, of its beneficial and injurious effects, are not antagonistic; for although there is no proof that mercury has any especial effect on the bones, yet if a destructive caries already exist, no drug is more likely to extend the process. I cannot therefore but think that the observation of experienced men like those I have mentioned, as to the too frequent baneful effects of mercury, must be correct. An objection may be raised by

some in the denial of such an affection as syphilitic caries, or that this is ever witnessed without the administration of mercury; to this it may be answered that, if reference be made to those severe cases of necrosis of the calvaria where large plates of bone are detached, the opinion is no doubt correct; but if it be denied that a caries to a less degree occurs from syphilis alone, the statement must arise from want of experience, for, as I shall presently show, a caries may constantly be found on the cranium when the scalp is removed where no disease, or at most a periostitis, was suspected to exist.

Whether, in the production of other effects observable in the so-called tertiary stage, mercury gives its aid, involves another question, but it may be stated that, in connection with more than one of the lardaceous livers preserved in Guy's museum, it is said that mercury had been largely administered. The patients, however, it must be remarked, from whom they were taken having also had syphilis, there had been a manifest cause for lardaceous disease, without the supposition of another instrumentality to have originated or even aggravated it.

*The peculiar effects of syphilis on the system.*—These, as already said, are characterised in one of their principal features by an exudation of lymph. This may vary somewhat in consistence and form, according to the tissue in which it is deposited, and thus on the skin or mucous membrane it may have a tendency to soften and ulcerate. The oldest observations in connection with such depositions refer to nodes on the bone, due to an exudation of lymph between the bone and periosteum. This node is very inert as regards ulterior changes, although, if not removed by remedies, it may ossify, or, becoming soft, involve the bone in caries. The iris also at a very early period in the history of syphilis was observed to be liable to a deposition of lymph, which underwent a rapid removal by mercury. In like manner condylomata or mucous tubercles were recognised as one of the effects of the virus, and also eruptions on the skin styled tubercular. It was not until a much later period that nodules of lymph were observed to occur in the tongue, and not until a comparatively recent date that they might be found in other muscles of the body. It is now maintained that all these observations related to the external parts of the body only, or those which could be seen,

but that a more extended observation of modern times has shown that the internal parts of the body may be similarly affected.

*Mode of formation.*—The character which the deposit assumes in a muscle may be taken as that which prevails more or less in all other organs. In the tongue or in one of the muscles of a limb a rounded, hard lump may be felt through the integuments, and thus constitutes a tumour. It differs, however, from the ordinary class of tumours, known as new growths, since the latter proceed from a small point or centre, and continually grow on the surface, whereby they become circumscribed and are constituted wholly of the new material which has been thrown out. This is the case in cancer or tubercle. In the syphilitic tumour, however, the exudation appears to have been, in the first place, of a soft and albuminous character, and being poured out in large quantity, has infiltrated the tissue; consequently, when examined, the lymph and the original structure of the part are found incorporated. At a subsequent period, when this has become hard, if a portion be examined by the microscope, the muscular structure will still be found present in the apparently simple, hard, fibrous, mass; and thus it is that, if appropriate remedies be given at an early period, the tissue will be left in its integrity after the adventitious material has been absorbed. This is everyday experience as regards the tongue. In consequence, also, of the lymph being poured out, and not growing from a centre, the diseased mass is not so circumscribed as a new growth, and the lymph or fibre will be found radiating into the muscular tissue around. Thus it is that the surgeon meets with such difficulty in his attempt to remove these tumours by operation; instead of their turning out as an ordinary new growth would do, these have to be actually cut out. If not absorbed by remedies, they become very hard, and then more circumscribed, and remain inert for many years.

In the liver the same process occurs. In this organ the fibroid nodules are not seen, as a rule, until after some years of their existence. They are then hard, more or less circumscribed, but found shooting out their fibrous rays into the surrounding hepatic tissue. In this case, also, owing to the contraction which takes place, there is often left a remarkable

cieatriform appearance on the surface. It is this exudation of lymph or fibro-plastic material and subsequent contraction which peculiarises the disease; thus in the pharynx and larynx, not only is there an ulceration, but an induration at the edges and base of the ulcer, formed by the same material, and in the case of the larynx, as in the instance I shall presently mention, there may be sometimes found a simple fibroid deposit, without ulceration. In the bone a similar exudation occurs in the eanals, and if accompanied by earies, is followed by a similar cieatriform appearance as in other parts. This is often well exemplified on the os frontis of the cranium.

*Structure.*—The deposit which is met with in the liver and other organs has generally had a long existence there before it comes under our notice, and then, when submitted to examination by the microscope, is found to contain fibro-plastic elements, small nuclei, fatty granules, and some amorphous matter. By French and German writers the term gummy tumour is used to designate these syphilitic deposits, but it is a word which I do not adopt, as it would seem to suggest a soft and almost semi-fluid tumour, which is a condition not often met with, except in a very recent stage of the disease; as usually found, they are hard and fibrous, indicating a dried-up condition of a fibro-plastic matter; occasionally a secondary softening process may have taken place, and thus in one or two instances the nodules in the liver have been in a semi-liquid state in their centres; but in the best-marked instance of this which I shall have to mention a question existed as to the genuine character of the deposit, and whether, indeed, it might not rather have been the remnant of a dried-up abscess. On the surface of the body or mucous membranes, however, this softening process does take place, and thus we have earies of the tibia and cranium, or ulceration of the pharynx and larynx.

*Is the syphilitic deposit peculiar and distinguishable?*—This cannot be answered affirmatively, since no elements possessing any peculiarities are found in it. At the same time, should nodules of fibroid tissue of the kind described be met with in the liver and in other parts of the body, a strong suspicion would be excited as to the nature of the disease; and should, moreover, they be associated with other conditions usually re-

cognised as syphilitic, the proof of the existence of syphilis would be as satisfactory as that for any other disease. For instance, the elements of tuberculous matter are not so distinctive that a single tubercle in the body is sufficient to indicate its nature ; indeed, should the theory of those physicians be correct, that tubercle is only a modification of inflammatory lymph, it would necessarily require a certain amount or distribution of it, from which a conclusion could be framed. This difficulty, however, in fixing the syphilitic deposit with any peculiar characters, has been considered by some sufficient to discredit its venereal origin, for they have said, why should that be styled specific\* which presents no other features than those of an ordinary inflammatory product ? In answer to this I would say that, in all probability, time will evolve some distinguishing features in these deposits, but in the mean while I would demand of the doubters whether they disbelieve in the formation of a node on a bone or lymph on the iris because they are unable to point to the peculiarities of the effused products. I think that the changes in one organ are as characteristic as in another ; and thus, if an excavated ulcer, with indurated edges and other peculiarities, is called syphilitic because these are the appearances usually met with in the venereal disease, so in like manner I should say that fibroid nodules in the liver, deposited towards its surface and producing a puckering of the surrounding tissue, are due to syphilis because so frequently met with in that disease. The argument against such a conclusion, taken from the want of any peculiarity of structure, is equally applicable to the syphilitic deposits on the exterior of the body as well as to a large number of other morbid changes in the system.

#### LIVER.

I will speak first of this organ, because it is that which appears to be pre-eminently selected as the seat of the syphilitic formations. It is remarkable that two centuries ago the liver was thought to be affected by the venereal poison, and that since this period more than one writer has alluded to the occurrence of jaundice during the progress of the disease. These, however, were mere surmises, as no mention is made of

any tangible hepatic lesion. Indeed, it is only within the last few years that the subject of syphilitic affections of the liver has been brought before the notice of the profession in England. The first description, I believe, was that given by Mr. Busk, in his translation of Wedl's 'Pathology,' in 1855.<sup>1</sup> So little was it then known, that the author himself appears to have little knowledge of the subject, and gives his information from Dittrich. The latter (Wedl says) has shown that after invertebrate syphilis the liver frequently presents a cicatrisiform tissue on its surface, which may extend deeply into the parenchyma; he has also noticed scattered nodules, consisting, like the cicatrisiform contracted parts, of connective tissue. These parts are occasionally found in a state of involution, containing an abundance of fat-globules and free pigment-molecules, and when torn asunder also presenting shrivelled nuclei. In the neighbourhood of these fibroid nodules, where the hepatic tissue has already lost its normal texture, irregular clotted masses, in which no further organization has been set up, may be observed. The callous streaks, penetrating the substance of the liver, of lightish-gray colour, consist of many fibrils, occasionally crossing each other, which when treated with acetic acid exhibit elongated, imbedded nuclei, placed at regular distances apart. Besides this, groups of pigment-molecules are very frequently seen, no longer contained in a cell, whilst in many other situations they are still manifestly closed in a tunic.

It will be seen that in the following cases the liver presented generally a number of rounded nodules, placed towards the surface, as above described. They were of different sizes, varying from that of a pea to that of a marble. They were for the most part hard, one or two only showing signs of softening in their centres. When old, they were more or less circumscribed, though sending out branches of fibre into the surrounding tissue. By the contraction which had taken place, a cicatrisiform appearance had been produced, and thus the resemblance to syphilitic affections of the skin and mucous membrane.

<sup>1</sup> This date will show how recent has been the investigation into this subject and how novel it was to Englishmen. When shortly after this period, I exhibited specimens at a Medical society, considerable scepticism was evinced, and since that time, a reviewer of my published lectures has stated that I should not have spoken of such deposits being syphilitic as received facts.

*The liver in congenital syphilis.*—The same appearances may be found in those in whom the syphilis is congenital, and of these I shall be able to give an example.

It has been stated, however, by Gübler and others, that the livers of infants who have died of syphilis have presented a different appearance; that the fibroid nodules found in the adult have not had time to form, and thus the exudative material is more diffused, it is more acute, and is to be found in a soft or liquid condition throughout the organ. When presented to our notice, this has become firm; but being diffused, the liver is hypertrophied and indurated. It is usually found large, globular, and elastic. I shall, unfortunately, not be able to give examples of this, for since my attention has been directed to this point I have only had an opportunity of dissecting two syphilitic infants, for previous to this time I had only noted the peritonitis and pneumonia which is often found in such subjects. In these two cases the livers were firm, although one contained a considerable excess of fat, and in one of them there did appear to be present some fibro-plastic material. I would not wish, however, from such slight data, to offer anything as a result of my own observation. The condition spoken of, however, seems to have been attested by others, and thus placed on a respectable foundation. Professor Thiry recently exhibited to his class a specimen of this specific alteration, which he said was described by Gübler as affecting the liver in hereditary syphilis, but it will be seen that even here the change was more like what is observed in the adult. The foetus was born dead at the seventh month, and the liver was very hyperæmic. The alteration consisted in the deposition of numerous ovoid, yellowish-white kernels, of varying dimensions. On incision, these presented a nacreous surface, of a fibro-cartilaginous hardness. Under the microscope neither vessels nor nerves were discoverable, some nuclei, nucleoli, and elongated cells, forming the sole elements. It was fibro-plastic tissue in the first stage of development.

This condition is styled by Thiry tertiary syphilis, as it is also by Gübler; but, for the reasons before said, the term is not applicable, secondary or constitutional syphilis being the correct expression; the latter I prefer, as the deposit is not a secondary, but the direct, result of the introduction of the virus. It would,

indeed, be remarkable if the child had run through three stages of syphilis in seven months. So great an improbability should make us hesitate to call such a condition tertiary syphilis. Should a foetus be born indeed with tertiary syphilis, I should expect to find a lardaceous liver; but this does not occur, unless, indeed, the indurated liver spoken of by Gübler be an example of it.

*Perihepatitis.*—This, as far as my own observations have gone, is wholly connected with the deposit in the parenchyma, at least I have no evidence that in the adult an inflammation of the serous membrane ever occurs in connection with syphilis without some affection of the tissue beneath. Adhesions may certainly often be found in syphilitic subjects, but there has been no proof that these are of syphilitic origin when no deposit has existed in the substance of the liver itself. It has been thought, however, that they may independently occur.

In three cases, however, of still born syphilitic infants which I examined I found recent adhesions between the liver and diaphragm, and in two of them these were associated with a general peritonitis, just as Dr. Simpson long ago described. In these cases there was no apparent disease of the liver itself, but the microscope was not used in order to ascertain the fact. It is clear, however, that if these children had lived, the adhesions would have remained, and thus in adult life their origin would have been unknown. It would not, therefore, be just to ignore syphilis as a cause of perihepatitis or even of a general inflammation of the peritoneum.

The case which immediately follows is the first in which I looked for the deposit in the liver, after my attention had been directed to the subject. It affords a good example of the disease, and is the case illustrated in the Plate III, fig. 1.

CASE 1 (Prep., liver, 1913<sup>10</sup>; calvaria, 1075<sup>75</sup>; testes, 2351<sup>55</sup>).—Alfred H—, aet. 39. He had led a very dissipated life, had had syphilis, and taken much mercury. The disease of the cranium, for which he entered the hospital, had been increasing for three years before his death, commencing with a slight exfoliation of the bone on the right side, and advancing until a large part of the calvaria was destroyed. He was in the hospital several times for this complaint, and on his final admission was in an extremely cachectic state, and scarcely a sound portion of bone remained on his head, the latter being covered with cicatrices and purulent sinusses. He died shortly after of pleuro-pneumonia.

*Post-mortem examination.*—The surface of the head presented a most remarkable

appearance, from its irregular and flattened shape. The forehead was depressed, from the whole of the bone having gone, the cicatrices of skin being adherent to the dura mater beneath. At the sides were numerous scars and fistulous openings, the latter leading to necrosed bone. On the left side was a large piece of bone nearly detached. The dura mater was more or less adherent, both to the bone and to the integument, where its osseous covering was gone. Brain healthy. The *liver* presented, upon its surface, an indentation like a cicatrix, and upon cutting through this the structure, for a short distance beneath, was seen to be contracted and indurated, from the presence of a dense fibrous tissue infiltrating the parenchyma. Although this puckered part, as a whole, was not accurately defined, yet below, it had a distinct rounded margin, and the new material appeared to have been originally deposited as two rounded nodules. Such nodules were seen scattered about in the neighbourhood, and amounted to about fifty in number. They consisted of round, hard, white masses, the size of peas, and at first sight might have been mistaken for cancerous tubercles; unlike these, however, they were not situated, for the most part, on the surface of the organ, but in the interior, being formed within Glisson's capsule, and thus everywhere in close contact with the portal vessels. These nodules were of a pearly white colour, very firm, hard, and dry; they cut sharply, as cartilage, and did not tear, as fibrous tumours, and they emitted no juice on pressure. The microscope showed them to consist of an amorphous, albuminous, translucent material, which, by the addition of reagents, was seen to have somewhat of a fibrous arrangement, and interspersed with nuclei and fatty granules; in fact, a very low organizable deposit.

The testes were much wasted; a section showed them to be very hard, dense, and fibrous. The true glandular structure appeared to be replaced by a tough fibrous tissue. There were also distinct nodules resembling those in the liver.

In the next case it will be seen that the disease of the liver was associated with the lardaceous change in the kidneys and spleen, and thus affords an example of the combination of the so-called secondary and tertiary stages of syphilis. From what has been already said, there is every reason to connect the state of the liver with the true syphilitic stage, whilst the state of the other viscera is to be regarded as the sequela. This appears to be more correct than to class them all altogether under the vague term tertiary.

**CASE 2** (Prep. 1913<sup>25</sup>).—Mary Ann C,—at. 27, was admitted in a wretchedly cachectic condition. She was a woman of the lowest character, covered with an ecthymatous eruption, and had caries of the clavicle. She very shortly died of peritonitis.

*Post-mortem examination.*—The kidneys and spleen were found affected by the lardaceous disease to an extreme degree. The liver was fissured on its surface, and had throughout its substance a number of white, hard, fibrous masses. These were situated mostly towards the exterior, but some were in the midst of the organ. They were circumscribed, so that they could be turned out of their position, but not wholly so, for a circumference of fibrous tissue still remained, which passed insensibly

into the hepatic structure. They were composed of ill-formed fibre. The gland-tissue was elsewhere healthy.

The next case corroborates the remark made in connection with the preceding case, that the fibroid deposits do not belong to the latest stage of syphilis when the patient has passed into a state of cachexia, since this woman had not suffered from any of the symptoms usually designated tertiary; indeed, she died, as it were, accidentally, and not from the general decay of the tissues, at a period when the fibroid deposits are mostly found.

**CASE 3** (Prep., liver and larynx, 1913<sup>20</sup>).—A woman, æt. 33, had had hoarseness and difficulty of breathing for about a year, and which had gradually increased until the day of admission. On the evening of this day, the respiration having almost ceased, tracheotomy was performed. She was relieved by the operation, but soon afterwards emphysema came on, and she died in two days.

*Post-mortem examination.*—The larynx, on examination, was found to be almost closed by a dense mass of fibrous tissue, which occupied the glottis, and which might, with some justice, have been designated a tumour. It was composed of a dense fibro-albuminous tissue, and corresponded to a nodule on a bone, or nodule in the liver. The independent opinion of two surgeons was unhesitatingly in favour of its being syphilitic. Beneath its posterior surface was a small, longitudinal fissure or ulcer. Many of the cervical glands were enlarged. The liver, on its upper surface, between the right and left lobes, showed the capsule puckered, and of a white colour. On cutting through this there was found a hard mass of fibrous tissue, about the size of a billiard ball. It was tolerably circumscribed, although it penetrated the tissue around, and when cut through appeared to be made up of a conglomeration of a number of smaller nodules.

The following case is interesting, as being that of a child who had never had the so-called primary syphilis. The disease was congenital, but the result on the system was the same as in the previous cases.

**CASE 4** (Prep. 1913<sup>35</sup>).—Lucy R.—, æt. 12, admitted for scarlatinal renal dropsy, of which she died. She was a small, puny, cachectic child, and had always been ailing. One of the tibiae much enlarged from a chronic osteitis. The mother had had secondary symptoms.

*Post-mortem examination.*—The kidneys were enlarged, and contained a tubular, inflammatory deposit, as in ordinary cases. The liver was adherent to the diaphragm by old adhesions. Its whole surface was puckered in a very remarkable manner by the contraction of fibroid material, which passed into its substance. A section showed a number of deposits, a dozen or more, composed of a firm, yellow, amorphous substance, each about the size of a nut. These were round and circumscribed, and appeared as if they had been larger, but became contracted, as there was much puckering of the tissue around them; the surface was, accordingly, much fissured.

The following five cases are related under their respective heads, but in all of them the liver afforded good specimens of the peculiar deposit.

**CASE 5.**—This is described under Lung, Case 1, and the Prep. 1913<sup>30</sup>. The liver contained about fifteen or twenty deposits, varying in size from that of a marble to a walnut.

**CASE 6.**—This is described under Brain, Case 1, and the Prep. seen at No. 2004<sup>50</sup>. The liver was adherent to the diaphragm, and at this part the organ was occupied by some hard, yellow masses, formed of conglomerated nodules; also some isolated, smaller nodules.

**CASE 7.**—This is described under Brain, Case 2, and Prep. 1913<sup>40</sup>. The liver contained three or four hard, yellow, fibroid masses, about the size of marbles. These were near the surface, and gave a puckered or cicatrisiform appearance to the upper edge.

**CASE 8.**—This is described under Brain, Case 4. The liver contained two or three nodules of a tough, yellow, amorphous substance. One of these, on the surface, had produced a cicatrisiform appearance.

**CASE 9.**—This is described under Testes, Case 3. The preparation leaves no doubt of the disease in the latter organ being syphilitic, and it is stated that the deposit in the liver exactly resembled it. Here there was a cheesy mass, partly projecting and partly imbedded in the substance of the organ, on its posterior border.

The following case shows lardaceous disease as the sequela of syphilis, and cirrhosis, as a result of intemperance; but the case is here given because a question arises whether the amount of fibroid deposits in the liver was not determined in part by the syphilis before the lardaceous change commenced—whether, indeed, more than one cause was not in operation to produce the morbid changes found in this man.

**CASE 10 (Prep. 1913<sup>15</sup>).**—Thomas H—, æt. 43. He was a coal-porter, had drunk hard, and had for some years been suffering from rheumatism and other effects of syphilis. His health had been bad for six years; for ten months he had been ill, and quite incapacitated for any work for five months. During this time he had pain in the side and swelling in the abdomen. On admission he was found to have ascites, and both the liver and spleen were enlarged. He was tapped two or three times.

*Post-mortem examination.*—The liver, spleen, and kidneys, were found to be lardaceous, the two latter organs forming perfect specimens of the disease. The liver, besides being similarly affected, was also cirrhoued, that is, there was interspersed through the organ a quantity of tough, fibrous tissue, but this was peculiar in being here and there concentrated into distinct round nodules.

In the present comparatively recent discovery of these changes in the system in syphilis, and when further observation is necessary in order to ascertain if the deposit possess

any peculiarities, it may be sometimes difficult to determine positively whether the affection be due to syphilis or not. Thus, when a patient has been in hot climates, and a low organizable deposit be found in the liver, a question may arise whether this be the remains of a dried-up abscess or an inflammatory exudation which has never reached the stage of pus. As my object is not merely to select well-marked instances of syphilis, with the effects on the viscera, but to take all cases which bear on the subject, I shall give one or two examples of these doubtful cases, so that they may be placed in juxtaposition with the genuine ones which have preceded.

In the case which follows it may be a question whether the deposit in the liver is a result of syphilis or a simple inflammatory exudation associated with the dysentery, and to be classed amongst the well-known cases of hepatitis which are closely connected with the intestinal affection. The case is interesting in another point of view, as showing the occasional consequences of a deposit of this kind—the production of ascites by pressure on the blood-vessels.

**CASE 11.—J. W.**—æt. 34, a sailor, and had been in hot climates. He was admitted for ascites and swelling of the legs. This was thought to be dependent on hepatic disease, and he was tapped, with relief; on a second occasion, however, the operation was followed by peritonitis and death. He had scars on the groin, as from old buboes, and also an excavation on the penis, near the frenum.

*Post-mortem examination.*—The liver was found firmly adherent to the right side, and also to the diaphragm above. When the latter was removed from its surface, a quantity of very tough, yellow material was cut through. This substance, which was seen on the surface, penetrated the liver-structure, and occupied a large portion of the posterior part of the right lobe. There was a mass of this substance the size of the fist. It was tough, yellow, and dry, and composed of a number of round nodules of the size of marbles. Some of these were almost isolated, and at a greater distance there were smaller ones, distinctly separated. The most important fact in connection with this adventitious material was its surrounding some of the hepatic veins as they entered the vena cava, and even encroaching on the vena cava itself. Thus, the lower part of this vessel was of the usual size, but as it passed through the liver it was encroached upon, and much diminished in calibre, by the protrusion into its interior of one of these hard nodules. Close to this, two openings of the hepatic veins were seen, one very small and the other closed. The latter was dilated behind the obstruction. In one place there was some of this adventitious substance in Glisson's capsule, running in the course of the portal vein.

In the following case a similar difficulty to that of the last exists. The man had had syphilis, and he died with the lardaceous affection of the viscera, which undoubtedly pointed in

that direction. As, therefore, the results of syphilis were evident in the system, it might not unfairly be assumed that the deposit in the liver was one of them ; but as the patient had also had dysentery in warm climates, a doubt arises as to whether the inflammatory deposit in the liver may not have been the consequence of a tropical hepatitis. In the present state of our knowledge, it would be better to leave such a question undetermined.

**CASE 12.**—Thomas R—, æt. 31, a soldier, lately serving in the West Indies. He said he had had syphilis six or seven times, and been salivated five times (?). For nearly three years he had been suffering from cough. He afterwards went to the Crimea, but was soon sent to the hospital at Scutari with dysentery. He afterwards became dropsical.

*Post-mortem examination.*—Left lung disorganized, in consequence rather of a chronic broncho-pleuro-pneumonia than from tuberculous disease. The pleura much thickened, tubes dilated, tissue consolidated by chronic inflammatory deposit, and in the latter were some cavities, lined by a tough, hard membrane. Bronchial glands enlarged. The colon was very irregular and rugged over the whole of its mucous surface, showing that it had been at one time extensively ulcerated, and now healed. Liver was lardaceous throughout, and occupying a large part of it were a number of yellow, amorphous masses, the size of nuts and smaller; their circumference was firm, but centres of cheesy consistence ; they appeared to be formed in the course of the portal vessels. Spleen large and lardaceous.

Although attention has only been lately attracted to the syphilitic affection of internal organs, cases where deposits occurred must have been noted previously, and therefore I am not surprised to find that my predecessors, as well as myself, had observed the facts years ago, although ignorant of their pathology. The following case I reported several years since, when unaware of the nature of the morbid changes.

**CASE 13.**—Henry A—, æt. 34, came into the hospital with cirrhosis of the liver. He was a soldier, and had been very dissolute in his habits. He had lost his penis from syphilis.

*Post-mortem examination.*—Head not examined. Heart—mitral orifice much contracted from thickening of the valve ; aortic valves adherent. The liver was cirrhoued ; it was adherent to the diaphragm, and at this spot, on its upper part, there was a tumour imbedded in the organ itself ; it was of fibrous structure, but softer in its centre. The microscopic examination showed it to be composed of fibrillated tissue, fat, and imperfectly formed cells, constituting a low form of inflammatory deposit. Near it there were one or two similar tumours of the same character. The left testicle contained a tumour of exactly similar character to that in the liver, and very firm.

The following case also occurred some years ago, and of which I have a short note.

**CASE 14.**—William A.—, æt. 48, had suffered from syphilitic rheumatism and cachexia, so as to be unable to work for two years. Died of pneumonia.

*Post-mortem examination.*—Cranium carious over frontal bone. This bone also much thickened in parts. Abscess around the elbow-joint. Lungs showed recent pneumonia; also a number of small, white, inflammatory deposits throughout these organs, one or two of these softening. Liver contained a few small, white, firm deposits. Spleen contained also one mass of a firm, white, fibrinous deposit.

Not only should old cases which have been well reported be found to resemble closely those recent ones where our attention has been more particularly directed to the subject, but in a good museum, specimens should be preserved exhibiting the changes, even should the collector of them have been ignorant of their nature. Thus, I have felt no surprise in discovering in our own museum specimens which illustrate, I believe, remarkably well some of these syphilitic affections.

The following case will be seen to have occurred nearly forty years ago. The description, I believe, is by Dr. Hodgkin.

**CASE 15** (Prep. 1913, in a preparation showing fibroid nodules in the liver; and 2003, a spleen with similar deposit).—Daniel P.—, æt. 34, under Dr. Cholmeley, in 1826, for dropsy and albuminuria. “The liver was healthy, with the exception of two or three puckered depressions on the surface, and imbedded in different parts of its substance were some small tubercles, the largest of which were about the size of horse-beans; they were quite defined, of rather cheesy consistence, and in colour resembled recently melted sulphur. In the neighbourhood of some of these tubercles, as well as immediately under the before-mentioned puckered spots on the surface, there were small, irregularly shaped portions, of a semi-cartilaginous tissue. In the spleen, which was rather large, there was an irregularly shaped, but circumscribed mass, rather larger than a hazel-nut, of a structure which at first appeared to be tuberculous, but which proved to be dependent on a peculiar alteration. The kidneys were of a light colour and mottled, from a degeneration or deposit, as seen in other cases.”

There is no history connected with the following preparations, but the two morbid conditions there seen being often associated, and the one so exactly resembling that found in persons the subjects of syphilis, and the other in those who have died from the sequelæ, that there can be little doubt that they well illustrate my subject, and point, the one to the so-called secondary, and the other to the tertiary, effect,—the lardoaceous disease, from which the patient died, being the

ulterior effect of syphilis, whilst the nodules found in the liver were the remnants of the effects of the more active virus.

CASE 16.—Nos. 1903<sup>32</sup>, <sup>48</sup>, are two old preparations of portions of the liver, showing in each a firm, rounded mass in the substance, and much puckering of the surface. The hepatic tissue has undergone the lardaceous change.

Connected with the following preparation there is no history of syphilis. All that is recorded is that the man died of erysipelas, arising in connection with a sore on the leg and exfoliation of bone. The disease, however, corresponded exactly with the syphilitic deposits.

CASE 17.—Prep. 1903<sup>40</sup> is a portion of liver containing some fibrous deposit. The organ is described as large, and having within it some white spots, varying in size from that of a pin's head to that of a horse-bean. In the right lobe, extending from the surface to an inch inwards, there was a mass of fibrous structure; and imbedded in the left lobe a similar mass, equal in size to that of a small walnut; the portion of liver surrounding it was indurated and contracted.

The following specimen is an old one, and, unfortunately, has no history connected with it. It is remarkable as being a portion of the liver of an infant, and unlikely to be affected by any of the ordinary morbid changes, and therefore highly suggestive of syphilis.

CASE 18.—Prep. 1912<sup>50</sup> is a small portion of the liver of an infant, in which a white, fibrous tissue is seen permeating it in various directions. There is no history with it.

As just now said, if cases be accurately taken, our records would show instances corroborative of our more modern ones. I have not wished to make this report too lengthly, by selecting every case which might have been brought forward to strengthen the position, but in a casual reference to some old volumes I meet with the following :

CASE 19.—John W—, æt. 56, admitted into the hospital for ulcers on the leg and general cachexia.

After death the liver was found paler and firmer than usual. There was a small, yellow, soft tubercle in the left lobe. The spleen was indented at one spot, and indurated; it resembled in colour new leather.

In the next case which I find recorded there is a distinct history of syphilis, and thus it appears to be a perfect example of the disease.

CASE 20.—Cornelius L—, æt. 27. He was in a very cachectic state, from the

effects of syphilis and mercury. Had eruption on his body, and numerous cicatrices. He died of pneumonia.

*Post-mortem examination.*—On the right side of chest strong and old adhesions, of considerable extent. The bond of union was in many parts about a third of an inch in thickness, of a firm and dense structure, resembling fibro-cartilage, or rather softer (what might, perhaps, be called firm lardaceous). There was also some recent lymph upon it. Old adhesions on the convex surface of the liver. The liver contained a number of round granules, varying in size from that of a shot to a pea. They were of a rounded figure, and though not possessed of a distinct capsule or cyst, might be clearly turned out of the structure in which they were imbedded.

The following case I give on account of the note attached to it by Dr. Hodgkin, although the remarks are obscure. It is difficult to know whether he referred to the fibroid or lardaceous change, but it is clear that he had observed morbid changes in those broken down by syphilis or mercury, and which he seemed to attribute more particularly to the latter.

**CASE 21.**—Joseph D,—, aet. 28, under the care of Mr. Morgan, in 1830. Long labouring under venereal and mercurial cachexia.

The liver was pale and granular, containing little round bodies, which, though turned out easily, did not possess distinct capsules.

*Note by Dr. Hodgkin.*—The same form of derangement I have repeatedly seen in those whose constitution had been impaired by mercury.

The following case is also confirmatory of the previous observations.

**CASE 22** is an old preparation of a calvaria (No. 1080), showing large portions of bone exfoliating. It came from Flora N,—, a young woman, a patient of Mr. Key, in 1826. She was in the foul ward, with secondary syphilis and disease of the os frontis. She had also nodes on both tibiae, and on left ulna. On post-mortem examination there were found some rather recent pleuritic adhesions, and in the lungs themselves some minute tubercles (?) subjacent to the pleura, but no true tuberculous matter. The liver contained a few dispersed, irregularly rounded bodies, the largest of which did not exceed the size of a horse-bean; they were soft, and were of a more bilious yellow colour than the surrounding parts, from which they were readily separable. Fimbriated extremity of Fallopian tube firmly adherent to ovary.

In the following case it is difficult to determine the exact condition of the liver from the description, but it was probably lardaceous. I quote the case, however, for the sake of again introducing a note appended to it by Dr. Hodgkin, in which he says, “The state of liver in this case is almost peculiar to those who have laboured under a cachectic condition from mercury.” If he refers to fibroid nodules, the observation is probably not quite correct; but if reference be made, as it probably

is, to a lardaceous liver, the conclusion, no doubt, is a good one, though left to his successors to more thoroughly establish.

CASE 23 (Prep. 2005<sup>50</sup>) refers to a lardaceous spleen.—Wm. B—, æt. 30, under Mr. Morgan, in 1829, for cachexia, resulting from syphilis and the administration of mercury. There were excavated ulcers on the body. The liver was shrunken, irregular, and connected to the diaphragm. The structure indurated, pale, and thickly pervaded with a substance having a white, hard, tuberculous character, which in some parts had the form of round, defined masses, of size of large pins' heads, but in parts diffused. The spleen was pervaded by numerous minute, translucent bodies. The lymphatic glands were in many parts enlarged.

#### SPLEEN.

It will be seen that I present but few examples where a deposit has been found in the spleen; this may arise from the disease being less frequent in this organ, and also from its peculiarities not being sufficiently well marked as to at once determine its nature. I have given, therefore, only those cases where a deposit occurred in the spleen in common with a similar deposit in the liver or testes, and with which, therefore, it could without difficulty be compared.

In these cases, just as in the liver, it is probable that a fibroplastic material may exist in a more diffused form previous to its becoming concrete, but to such doubtful cases I shall not allude, merely relating those where a circumscribed deposit was found near the circumference, with a cicatrisiform indentation on the surface. (Plate II, fig. 3.)

I do not allude here to the lardaceous spleen, or that condition found in the stage which is called tertiary, or which might with more propriety be regarded as a syphilitic sequela.

In the following case it will be seen that, associated with the deposit in the spleen, there was lardaceous disease of other organs and enlargement of the bones, being an instance where the effects of syphilis had remained, although the sequelæ had taken place upon them—the affections of the bones and spleen pointing to the syphilis, and the lardaceous disease to its consequences.

CASE 1 (Prep., spleen 2004<sup>55</sup>; testes, 2351<sup>40</sup>).—James L—, æt. 41, was admitted, for strangulated hernia, and died soon after the operation. He was in a wretchedly eacchetic state, from constitutional syphilis, and which had quite disabled him from work for nearly three years. He was anaemic and sallow, and both tibiae were very much enlarged.

*Post-mortem examination.*—The throat was found to have been ulcerated, though now cicatrized. The liver was cirrhosed and lardaceous. It was nodulated from cirrhosis, and at the same time the adventitious fibrous tissue was in considerable quantity, as apparent to the naked eye. The spleen was large, weighing 2½ lbs. The increase of size was due mainly to simple hypertrophy, but at the same time it contained some lardaceous matter and fibrous nodules. The latter were firm, and of a yellowish-white colour, corresponding altogether to similar deposits found in the liver in other cases of syphilitic disease. The testes were very hard, and their normal structure almost completely destroyed by fibrous deposit. The latter was in the form of nodules, and also of streaks of fibre running through the organ. The one was converted almost entirely into this dense structure, the other contained the rounded nodules. In the former the tunica vaginalis was much thickened and adherent.

**CASE 2.**—This is seen under Brain, Case 1, and at Prep. 2004<sup>50</sup>. Besides the brain and liver being affected, the spleen was adherent to the diaphragm, and at this spot there existed a yellow mass, about the size of a walnut, corresponding in every respect to the similar deposits in the liver.

**CASE 3.**—In the case described as No. 14, under Liver, there will be seen to be deposits in various organs, and amongst others in the spleen.

**CASE 4.**—This is seen in Prep. 2003, and is described under Liver, Case 15. A similar deposit to those in the liver was found in the spleen; irregular-shaped mass, rather larger than a hazel-nut.

**CASE 5.**—In the case described in No. 19, under Liver, the spleen was apparently affected by a syphilitic deposit and contraction.

#### LYMPHATIC GLANDS.

Amongst the earliest structures of the body observed to be affected by syphilis were the lymphatic glands, and the same interest attaches to them as formerly in reference to the character of the original sore, when those in the inguinal region are involved. The modern theory is probably correct, that the enlargement and induration of those glands which accompany the Hunterian chancre is an evidence of the true infecting character of the disease. When, however, the whole system has become contaminated, the glands in other parts of the body may become involved, and especially the posterior cervical; but in reference to this there appears to be some question whether they be not enlarged in consequence of some slight eruption on the scalp. In favour of this view it may often be noticed that, when any irritation of the skin exists, they may be observed to be larger on that side where the cutaneous eruption is greatest. It would seem, therefore, to be a question still to be answered, whether the lymphatic glands are

affected independently of the part whence the vessels leading to them proceed, seeing that, as a rule, these organs are merely involved in the same disease as the neighbouring textures, as, for example, the mesenteric, by typhoid deposit or tubercle, according to the character of the disease in the ileum ; or as the bronchial glands are affected by cancer, tubercle, melanosis, &c., according as the lung itself is, or, as in pneumonia, where they are usually found inflamed, or at least enlarged and softened : for this reason I can quite believe that, since the lung may be affected by the syphilitic virus, so also may the bronchial glands, and therefore that such a case as the following, which Mr. Hutchinson brought before the Pathological Society, is an example of it. An infant, aged five months, died whilst affected with a syphilitic rash, and the bronchial glands were found to be infiltrated with a fibrinous deposit.

As before said, with regard to the liver and spleen, I regard the lardaceous enlargement of the glands as a *consequence* of syphilis. This general enlargement of the cervical, mediastinal, lumbar, and other glands, is sometimes found in connection with the lardaceous change of the viscera, and arises from a general cachectic condition accompanying mostly a disease of the bone ; but if arising from syphilis, must be regarded merely as the sequelæ, and therefore not directly connected with my present subject.

#### LUNGS.

Should further observations prove that many of the cases of disorganization of the lung known as phthisis originate, not in tubercle, but in a low organizable deposit induced by the syphilitic poison, a very important fact in clinical medicine will have been discovered. There is no doubt that exudations may occasionally be found in the lungs, which resemble in every respect those which have been described as occurring in the liver or other organs, and at the same time it is well known that those persons whose constitutions are broken down by syphilis and debauchery often fall victims to consumption ; but to connect these two conditions requires many more observations than we have at present at command. For when the lung is disorganized it is very difficult to ascertain the

character of the material which has been poured out into it and originated the disease ; it may often, indeed, be found to be non-tubercular ; but as low forms of inflammatory product are exuded under so many circumstances, we require that it should present some characters more marked before it can be pronounced indicative of the syphilitic poison.

An almost endless number of cases might be quoted where, in syphilitic patients, induration of the lung-tissue and local consolidation have been found, but it would be presumptuous, in the present state of our knowledge, to connect these conditions directly with the venereal taint. I shall be content, therefore, with giving one or two examples of cases where a simple deposit was found, and which, corresponding in every respect with similar deposit in other organs of the same case, no room for doubt could exist, leaving for the future to discover whether such cases are not more common than is generally believed.

In infants who have died of syphilis a lobular pneumonia is very often found ; it is distinguished by the presence of a number of small white points, scattered through the substance of the lung ; some of these will exude pus on pressure. Whether this is simple lobular pneumonia or specific in its character, I cannot say.

*Pleuritis.*—I say of this as of perihepatitis, that I do not know of it as occurring independently of the pulmonic affection which may give rise to or be associated with it. As with pneumonia, numerous cases could be brought forward of chronic pleurisy in syphilitic patients, but in so common a disease I should not venture to connect it with the venereal poison.

The following case is sufficient to show the fact that deposits of a peculiar kind do occur in the lungs of syphilitic patients. This is shown in the drawing.

**CASE 1** (Prep., lung, 1749<sup>60</sup>; liver and larynx, 1913<sup>30</sup>).—Sydney S., wt. 29, admitted into the hospital with disease of the larynx, and died on the following day. He was a sailor, and had slept at a coffee-house the night before admission, and whence he was brought to the hospital.

*Post-mortem examination.*—The body spare, as if the man had been ill for some time. He had phymosis, arising from cicatrix, and there was also a sear in the groin. There had never been any opportunity of making inquiries with respect to his illness. The larynx and trachea were exceedingly diseased ; the glottis was so edematous that the passage was nearly closed. Below this the whole mucous membrane was deeply ulcerated, and the walls of the tube much thickened by an

infiltration of fibrous tissue into the submucous structure; a great induration of the windpipe was thus produced. This fibrous tissue was more or less diffused through its whole thickness, and on the external surface of the trachea there was a hard patch of this substance. At one spot within, the thyroid cartilage was bare. The lymphatic glands in the neck were enlarged. The right lung contained a mass of deposit resembling that in the liver. The left lung contained in its upper lobe a similar mass in process of softening, and below this were a few smaller deposits of the same material. The larger deposits were in size about that of a marble, and when cut through were seen to be totally unlike any ordinary inflammation or scrofulous deposit, but consisted of circumscribed nodules of a firm, yellowish, dry substance, corresponding in all particulars to that in the liver, excepting in being less firm. At the side of one of these masses was another one, softening, breaking up, and in process of forming a cavity. This was peculiar, inasmuch as the circumscribed space or cavity formed by this adventitious material also contained within it a part of the softened contents, in the form of distinct layers. The microscope showed these to consist of fibres, exactly resembling those found in the hepatic tubera, and thus widely differing in composition from any ordinary pneumonic or tuberculous deposit, which are formed only of cells and nuclei of various shapes (Plate III, fig. 2). The *liver* was partially adherent to the diaphragm by old cellular tissue. Covering its upper surface were about fifteen or twenty nodules. These varied in size from that of a marble to that of a walnut. Several projected above the surface, whilst others were contracted, and lay below the surface, producing a general puckering of the tissue around. They were of a yellowish-white colour, tough, and of a leathery consistence, quite dry, and emitting no juice on pressure. In two or three the circumference of the tumours was of a translucent structure, and this was evidently the more recent formation, the opaque and yellow parts being probably similar, but undergoing a degenerative or drying change. All these nodules were tolerably circumscribed, and although projecting on the surface of the liver, had considerably contracted the tissue around. At one spot, between the two lobes, a deep cicatriciform appearance was produced by the contraction arising from the conglomeration of a group of these small nodules. The microscope showed the structure of these nodules to consist of nucleated fibres and simple fibrous tissue. The denser yellow parts showed less organization, and granules of fat.

The following, though not so good an example as the preceding, was a case in which a very characteristic exudation was found in the lung.

CASE 2.—It is described in Case 4, under Brain, where spine disease resulted from a syphilitic affection of the nerves, and, at the same time, deposits of the usual character were found in the liver and lung. The deposits in these two organs exactly resembled one another.

Amongst our cases there will be found others where mention is made of deposit in the lung, as under Liver, No. 14, but the description will not allow of my speaking of them with any certainty as syphilitic.

I might refer to such a case as that described as No. 7, under Testes, where, with a disease of the testes and larynx, there was also a cirrhosis of the lung; as the two former organs were diseased in consequence of the syphilitic poison in the system, it is possible that the state of the lung might be induced or favoured by the same taint. It will require, however, much further observation to discover whether this fibrous disease of the lung is sometimes produced by the venereal virus. The same remarks may apply to the thickening of the pleura or chronic pleuritis which accompanies it. I might here remark, what I shall have again occasion to repeat, how closely the syphilitic cachexia resembles that of serofulosa, and thus the reason why some have ventured to surmise that the serofulosa diathesis is nothing more than a phase of hereditary syphilis. In the case just quoted (No. 7, Testes) (which, although, I believe to be a syphilitic one), it can easily be imagined that the state of lung, combined with that of the larynx and the low organizable material in the testes, might have caused its appellation—serofulosa.

#### LARYNX.

Ulceration of the larynx is commonly spoken of as one of the effects of syphilis, but it is of a peculiar kind. It is characterised by the production of a fibro-plastic material, which is always tending to harden and cicatrize under the curative process. It thus presents marked differences from other forms of ulceration, as, for example, the tubercular, where the ulceration spreads and the surrounding mucous membrane is often highly vascular. In the syphilitic process, when the activity has ceased from the administration of appropriate remedies, a cicatrization takes place, leaving the affected part puckered, hard, and shiny, as no other form of disease produces; the epiglottis may be quite destroyed, as well as a considerable portion of the vocal organs, but the larynx eventually is quite healed, though indurated and otherwise mutilated.

The great peculiarity, however, of the syphilitic affection over any other is in the production of a fibroid material in the affected part, without any necessary ulceration, as in the case given in the drawing, where only one small abrasion, and that

quite recent, existed on the mucous membrane. In this case the upper part of the glottis had become gradually closed by a small nodule or tumour, which corresponded in every respect to a similar deposit in the liver.

It has been surmised that vegetations on the vocal cords may be sometimes due to syphilis, but of this there appears to be at present no good evidence.

The disease of the cartilages of the larynx I regard as one of the sequelæ of syphilis, and may arise from other causes than the venereal affection.

It is needless to give cases of so common a disease as syphilitic ulceration of the larynx, with the various kinds of destruction which may result. I would merely draw attention to such an example as that just mentioned, and given under the heading Liver, No. 3, where the characteristic form of the disease is seen in the production of a hard nodule in the upper part of the tube, and which has almost closed the glottis. (Plate III, fig. 4.)

#### TRACHEA AND BRONCHI.

It was formerly thought that syphilitic disease affected the larynx, but proceeded no further, but modern observation has proved that it may proceed much deeper into the air-passages.

The first case next given shows a remarkable contraction of the trachea, due to ulceration ; at the same time the epiglottis is destroyed, and the interior cicatrized in a manner which can leave no doubt as to its syphilitic origin.

The second case is a very similar one, where the trachea is contracted from ulceration. (Plate IV, fig. 2.)

The third case shows considerable thickening of the fibrous structure of the trachea, and is, in all probability, of a syphilitic character.

In the fourth case one bronchus is remarkably contracted, and which was, no doubt, due to specific ulceration. (Plate III, fig. 3.)

CASE 1 (Prep. 1697<sup>50</sup>) is an interesting specimen, showing, without doubt, the effects of syphilis. The epiglottis has been quite destroyed, as well as the vocal cords ; but the ulceration had been long healed, so that the upper part of the larynx presents on its interior a hard, irregular, cicatrized surface. Below this the larynx

has its usual calibre, but at the second ring of the trachea a remarkable contraction has taken place, as if a tight ligature had been placed around the tube, and thus its dimensions have been lessened to half its usual size. The constriction has evidently been due to the contraction of an ulcer at this part. The trachea has also some fibrous thickening on its exterior.

The patient, Philip D,—, æt. 37, was under Dr. Bright, in 1834, for epilepsy, from which he died. His voice had been affected for nine years. On *post-mortem examination* a cicatrix was found on the scalp, and which was adherent to the bone on the left side. On removing the calvaria the dura mater was found firmly attached to the brain on the left side, and in the adhesions there was some purulent matter.

CASE 2 (Prep. 1697<sup>5</sup>) is a larynx, showing well the effects of syphilis. The under surface of the epiglottis forms an irregular hard cicatrix; and below this, throughout the larynx, the interior is covered with numerous glistening, puckered cicatrices. At the lower part of the trachea the tube is much contracted, evidently from a loss of substance on one side; for here it is deeply indented, and a raised, puckered ridge passes across the interior, which has diminished the calibre to half its size.

William C,—, æt. 34, died under Dr. Back's care, in 1834, apparently from fever. It appeared that he had had inflammation of the windpipe, and that he had bad swelling upon the head, and an abscess over the clavicle and on the spine of the scapula. The *post-mortem examination* showed a small portion of one parietal bone diseased. The lungs were healthy, with the exception of one having a portion, the size of a walnut, consolidated by pneumonia.

CASE 3 (Prep. 1718<sup>73</sup>).—Jessie B,—, æt. 46, admitted for bronchitis and disease of the liver; the difficulty of breathing was very great, indicative of more than usual mischief in the larger air-passages. She was an intemperate, dissolute woman, but no inquiries were made respecting syphilis.

*Post-mortem examination.*.—The trachea was found to be most extensively diseased. The whole of the tube, from just below its commencement, was ulcerated; the interior presented a raised, flocculent, ragged surface, and the same condition extended into the larger division of the bronchi. On removing the tube it was seen that its whole thickness was involved, and infiltrated with adventitious matter. On the anterior surface, between it and the aorta, there was a tough, fibrinous exudation, closely adherent to the rings; amongst this was some softer, yellow material, and which was the same substance undergoing degeneration. It appeared thus as if a chronic inflammatory disease had involved all the walls of the trachea, resulting in the deposition of this tough, adventitious material on the external surface, and ending by ulceration within. A very careful examination failed to discover any products resembling carcinoma or tubercle. In the middle lobe of the right lung there was a mass of consolidated hepatized tissue. Liver cirrhosed and nodular.

CASE 4 (Prep. 1718<sup>72</sup>).—Charles H,—, æt. 32. He was a very intemperate and dissipated man. He said he had had venereal complaints several times, and had taken mercury. He was in a very cachectic condition, and had long suffered from laryngitis; he frequently had attacks of difficulty of breathing, so that on one occasion the house-surgeon was forced to perform tracheotomy. He, however, survived only a week after the operation. On *post-mortem examination* it was found that death was due to a general inflammation of the air-passages. The upper part of the

larynx was swollen, altered in shape, and suppurating. The *right bronchus*, just above its division into the secondary branches, was constricted to rather less than half its usual calibre; this constriction was not equal all around, but was caused by the falling in of the sides and back part. A careful examination was made, in order to discover if the contraction was due to any external pressure, but none was discoverable, the only unusual appearance being a small quantity of fibrous tissue around the part, as if an inflammatory action had once existed there; there was also a partial loss of the cartilaginous ring at the seat of contraction, and thus the tube could be easily bent double. The bronchus was somewhat dilated below the affected part. The liver was lardaceous, and the kidney in an early condition of granular degeneration.

#### THYMUS GLAND.

I mention this organ merely because Dubois has stated it to be affected in hereditary syphilis. It is said that the gland presents no changes externally, but when incised and squeezed small drops of a semi-fluid matter, like pus, escape. In the few cases of infantile syphilis which have come before my notice for dissection I did not perceive anything remarkable in the organ, but at the same time I should state that it was not minutely examined.

#### STOMACH AND INTESTINES.

Of the syphilitic affections of these organs I can say but little, as I have no cases sufficiently well marked to warrant their appearance in this essay. It has, however, from time to time been surmised that the intestines might be affected in the venereal disease, and, indeed, several years ago M. Cullerier called attention to the subject of syphilitic enteritis manifesting itself in the form of submucous gummy deposits, which do not go on to ulceration, but induce obstinate diarrhoea and the symptoms of enteritis. He had observed it most frequently in children, but also in adults. It was a disease which required the most delicate appreciation, as the mercurial treatment is far from being contra-indicated, constituting, indeed, the means of cure. Should the observation be correct, a more close dissection will be required in syphilitic infants.

I shall merely be able to allude to cases where patients, the subjects of syphilis, had ulceration of the bowels, but whether dependent on the virus must be received with hesitation.

The only cases I can positively connect with syphilis are those instances of ulceration of the rectum where the disease has extended inwards from the external parts. These cases have more especially occurred in women where an extensive ulceration of the genital organs has occurred, so as to involve the surrounding parts, and finally the rectum. Accompanying the ulceration of the mucous membrane, there has been an inflammation of the pelvic cellular tissue, and thus some contraction or stricture of the rectum has followed.

**CASE 1.**—Sarah N., at. 37. She had been a prostitute, and had suffered from extensive sores and condylomata about the anus. She was admitted with ulceration of the rectum, with fistulous openings around. She was in a very cachectic condition.

*Post-mortem examination.*—All the organs in the pelvis were found firmly united together, and the pelvic cellular tissue converted into a dense substance. It appeared as if the external inflammation had proceeded upwards around the rectum, and thus the interior change had occurred. The mucous membrane within was also greatly diseased; several ulcers, with bands of mucous membrane, were seen. Passing across and beneath, there were fistulous openings, two of which passed into the vagina. The outlet of the rectum was surrounded by raised edges of thickened skin and condylomata and cellular tissue around, of great density. Liver very large, and composed of the fatty and lardaceous change; kidneys granular, and occupied by lardaceous deposit. In the lower part of the upper lobe of the right lung there was a round mass of hepatized tissue, softening into an abscess in its centre. There was thus a circumscribed cavity, surrounded by hepatized lung. No disease in any other part.

**CASE 2.**—Elizabeth L., at. 31. She had had old-standing inflammation and ulceration affecting the genital organs, with great enlargement of the labia, and for two years had suffered with stricture of the rectum. The passage was very narrow, and the mucous membrane irregular. A large mass of hypertrophied labium was removed a short time before her death.

On *post-mortem examination* it was seen that a very old pelvic cellulitis had existed; the rectum was contracted; the muscular coat much thickened, and cellular tissue around greatly indurated. The mucous membrane was very irregular on the surface, the consequence of a former extensive ulceration.

**CASE 3** (Prep. 1867) is a case of stricture of rectum, following ulceration. A young man who was the subject of syphilis became affected with dysenteric symptoms, and subsequently stricture of the rectum. Finally an abscess formed near the crest of the ileum, which was opened, and found to communicate with the intestine. On *post-mortem examination* cicatrices of old ulcers were found in the sigmoid flexure, and at its lower part it was much constricted. A little above the anus the gut was considerably thickened and indurated. It had an uneven surface; the mucous membrane appeared to have gone, and the subjacent tissue much thickened.

## PHARYNX AND OESOPHAGUS.

The condition of the syphilitic ulcerated pharynx is well known—the deep excavations and hardened borders, leaving an indurated cicatrix when the ulcer has healed, so that, as in a woman who was lately in the hospital, the pharynx was contracted to the size of an ordinary sized catheter: or sometimes the velum is bound down to the back of the pharynx. The ulceration need not, however, stop here, but may reach to the oesophagus, and thus, as in the annexed case, a contraction may exist at the commencement of this tube. (Plate IV, fig. 1.)

CASE (seen at Prep. 1784<sup>95</sup>).—The specimen shows a contraction at the lower part of the pharynx, where it joins the oesophagus. It is considerably puckered at this part, where evidently an ulcer had existed, and the submucous tissue beneath is somewhat indurated. Some of the neighbouring cervical glands appear enlarged and hardened.

## KIDNEY.

I can offer no cases in illustration of syphilitic disease of the kidney, although such have been described. It may be that instances may not have been unobserved, but that they did not present sufficient peculiarities to warrant any surmise as to the specific origin of the disease. For example, depositions of a fibro-albuminous material, with accompanying cicatrices, are common enough, but further observations would be required to connect them with the syphilitic condition.

The lardaceous or waxy kidney, as before said, so often met with in the so-called tertiary syphilis, I regard merely as a sequela.

## MUSCLE AND HEART.

The existence of syphilitic nodules in the tongue has been recognised for a long period, and in other muscles of the body for several years. As before described, an infiltration of lymph takes place in the muscle, and which, if in large quantity, produces a nodule more or less circumscribed, but never so

defined as a new growth commencing from a centre. Thus it is that the fibrillæ of the muscles may still be found within them when submitted to microscopic examination; and when absorbed by the action of appropriate remedies, the original tissue may be left without much damage having occurred to it. Thus it is also why, in the attempt to remove such tumours by the knife, the surgeon experiences so much difficulty in endeavouring to isolate them. These nodules may be found occasionally in all the muscles, but they appear to arise more frequently in the forearm and leg; in children they are sometimes met with in greater number, when, if they soften, they leave sores on the surface. The sterno-mastoid muscle may be sometimes found to have one or two nodules of the kind in it; but whether the peculiar induration of the whole muscle sometimes observed in new-born infants is of a syphilitic origin, I cannot say. In the few cases of the latter kind which have come under my notice, there has been no other evidence of a venereal taint.

*Heart.*—One of the most interesting seats and, above all, the most important, for such deposits is the heart. A sufficient number of cases have now been recorded to prove indisputably that the heart may be thus affected. I have in the present series no authenticated case of this, but have two or three instances where the condition of the tissue of the heart so much resembled what is seen in other muscles, that I think they, in all probability, constitute true examples of the disease, especially as they could not be connected with a rheumatic inflammation. The latter or rheumatic form of myocarditis is very seldom unattended, as far as my experience has gone, by remains of an old pericarditis or endocarditis, and the condition of the muscle itself shows a streaking by fibrous tissue or a fibroid degeneration of the muscle, rather than a mass of fibro-albuminous material in the walls of the heart, as seen in the present examples.

*Pericarditis.*—With affections of the muscle of the heart, the pericardium is liable to be inflamed, but I know of no independent pericardial inflammation which can be styled syphilitic.

In the following case I strongly suspect a syphilitic origin for the disease, as the appearances were not only like those pro-

dueed by the venereal taint, but were altogether dissimilar to those caused by rheumatism. (Plate IV, fig. 3.)

CASE 1 (Prep. 1396<sup>70</sup>).—A. B—, æt. 23, a cattle-drover; whilst driving a beast in the streets, he fell dead. He gasped two or three times, and then ceased to breathe. The body was said to be healthy, as well as all the viscera, excepting the heart. In this a large tumour was found growing in the septum of the ventricles. The organ was of the usual size, the cavities well proportioned, and the muscular walls of natural thickness. The growth projected more towards the right side than the left side, so that, upon looking into the ventricle, no tumour could be seen, the only trace of disease being a thickened patch of endocardium beneath the aortic valves, where the partition is merely membranous. Upon opening the right ventricle a considerable projection was seen to occur from the protrusion of the septum into it, the latter presenting a convex instead of a flattened surface, and having, in fact, a general parallelism with the anterior wall; the ventricular cavity had thus somewhat a semilunar shape. The growth occupied the upper half of the septum, commencing above, at the base of the ventricles, and reaching as low as its centre. Its greatest point of protrusion was just below the pulmonary valves, where it pushed forward the inner curtain of the tricuspid, and considerably diminished the calibre of the ventricle at this spot. This was immediately detected by placing the finger in the pulmonary artery from above, when it was found to pass with facility through the valves, but met with an impediment immediately below from the protruding septum, and which only barely allowed the point of the finger to pass to the ventricular cavity below. On making a transverse section through the septum the growth, as before said, was seen to occupy its upper part; its circumference was so blended with the muscular tissue around that no accurate measurement could be made; but upon being handled, the whole bulk of the tumour was felt to be about the size of a billiard-ball, the centre or focus of the deposit being about midway between the front and back part of the heart. Here the adventitious tissue had quite taken the place of the muscular, but on the circumference was blended with the wall of the heart, so that the muscle was seen streaked with the fibrous tissue. It was an inch in diameter, very dense, and cut crisply with the knife. Where interspersed with the muscle, it was very tough, and could only be torn out in shreds, whilst in the very centre of the mass the structure was softer, and could easily be detached in small pieces. The whole growth consisted essentially of a dense, glistening, albuminous material, more or less fibrillated, and having in different parts various proportions of nucleated fibre, and of a homogeneous, translucent substance. The toughest part interspersed with the muscle consisted almost entirely of a fibrous structure, through which were scattered nuclei, and which, on further examination, was seen to be composed of nucleated fibres and of ordinary areolar tissue. Towards the centre there was less of this organized structure, but, in addition, large plates of a homogeneous, translucent material, and in certain spots, which were yellowish and softening, the same constituents were seen broken up, covered with granules, small particles of fat, and irregular-shaped nuclei. The whole structure was dry, yielding no juice.

The following case, with specimen, was sent to me by Mr. Nisbett. There is no history of syphilis nor any of rheumatism,

and therefore the case stands simply before us as one in which a general experience must suggest the most probable cause of the disease. It appears that the patient suffered from cardiac symptoms from childhood, and therefore, if the disease be of specific origin, the syphilis must have been congenital.

CASE 2.—Charles F.—, æt. 29, a waterman at Gravesend, and died suddenly, without any previous illness. On inquiries being made, however, it appeared that, from a very early period of childhood, he had been subject to attacks of fainting, and these had been of frequent occurrence until about four years before his death, when they were less constant, and occurred only on occasions when he was excited by drink. He had always been a hard-working man, and accustomed to carry heavy loads; he occasionally had severe momentary attacks of pain in the left side of the chest, but no dyspnoea nor palpitation.

A *post-mortem examination* was made, and the heart sent to me for an opinion. The organ was of usual size and proportions, and the cavities of ordinary dimensions and thickness. On laying open the right ventricle and pulmonary artery, the muscular wall was seen to be replaced by a solid, tough mass of fibrous tissue. This commenced about the middle of the ventricle, and gradually increased towards the base, where the section was an inch thick. The same condition continued upwards, but with diminished thickness, along the pulmonary artery, ceasing at its bifurcation. This dense fibrous structure was thus thickest at the base of the heart, and gradually diminished in amount and thickness, both downwards to the centre of the heart and upwards to the pulmonary artery. It extended laterally to the breadth only of the ventricle, not at all encroaching on the left side. The adventitious material was thus tolerably circumscribed, and there was no fibroid degeneration nor streaking of any other parts of the muscular substance.

Looking with the light of modern science, such a case as the following, taken from the shelves of our museum, suggests a syphilitic cause as a very probable origin for the disease.

Prep. 1397 is a heart showing an albumino-fibroid deposit in the walls of the left ventricle and other parts. The preparation is a very old one, and came from a patient of the first Mr. Forster, and who was in the hospital for a so-called scrofulous disease of the sternum. He died suddenly, and the deposit in the heart was thought to be of a scrofulous character. It may have been the result of a rheumatic carditis, or connected with syphilis in other parts of the body.

#### BLOOD-VESSELS.

I cannot speak with much certainty concerning several other structures of the body as regards the effects of syphilis upon them, but I have much reason to think that the blood-vessels may be affected, although I am not aware that any facts have been published by others on the subject. When, for instance,

a young person, the subject of syphilis, in whom a disease of the blood-vessels is not liable to occur under ordinary circumstances, has a well-marked morbid change in these structures, a strong suspicion is created as to its connection with the taint with which the patient is affected. As, however, such conclusions are equivocal, I will merely give one instance out of many.

I might also have mentioned the case of a prostitute suffering from syphilis, in whom an abdominal aneurism occurred, a form of disease very uncommon in a young woman; also some other cases which I have witnessed, of cerebral disease in young syphilitic subjects due to disease of the blood-vessels, and also some others, where the disease was not fatal, but where the symptoms could be more readily accounted for by a softening than by the inflammatory deposits of which I shall presently have to speak.

If it be true that the blood-vessels are liable to be affected by the syphilitic taint, it will be probably found that the change is not of the atheromatous kind, but rather of the fibroid character, exemplified by a thickening of the coats of the vessels and the proportional diminution of their calibre.

I give the following case in illustration of these suggestions. It occurred before my attention had been especially drawn to the subject, and therefore it is possible that, in connection with the adhesion of the liver and spleen spoken of in the report, some deposits of an adventitious material might have existed in those organs likewise.

**CASE 1.**—Caroline M.—, æt. 38, was admitted into hospital in an almost unconscious state, being roused with difficulty, and having at the same time hemiplegia of the left side, including the face, with the left pupil dilated and the eyeball prominent. Five years before, she had contracted syphilis, and since this time she had been suffering the various constitutional symptoms of the disease. It was said that, five weeks before admission, having previously complained of pain in her head, she had a fit, followed by weakness of the left side. The latter increased, and three weeks afterwards she had another fit. For several days she had been almost insensible, and quite helpless. During the four days she survived her admission to the hospital she lay in an unconscious state, with stertor, &c. The face was covered with a copper-coloured syphilitic eruption, and the legs had numerous scabs of ecthyma.

*Post-mortem examination.*—Calvaria very dense and heavy. Membranes and surface of brain healthy. On opening the ventricles the seat of disease was seen to be in the right corpus striatum and thalamus opticus; a slight depression was seen at their point of junction, and on incising them a soft part was found beneath it.

The softening extended to a less degree for some distance around, and the microscope showed abundance of granule-masses. The *blood-vessels* of the brain were remarkably diseased, not by the usual atheromatous or earthy patches, involving a large portion or entire circumference of the artery, but by the deposition of numerous hard, round grains, which had been formed in their coats, and projected like so many tubercles, both within and without the vessel. This caused them to be of very unequal calibre, and in some places very much contracted. This was the case in the larger trunks of the vertebrals and carotids, but more especially in their branches. They contained no coagula, and did not appear diseased more on one side than the other.

The liver and spleen were firmly united to the diaphragm by old adhesions.

#### BRAIN AND NERVES.

Of all the organs affected by syphilis, the brain is that which, above all others, leads to the most serious results when implicated. It is the organ, however, in which the exact changes which occur have not yet been fully investigated. Those who have written on the subject have spoken of tumours or deposits occurring in the brain, similar to those which are seen in the liver, testes, and other organs. I cannot, however, bring forward any example in which I have found an unequivocal independent deposit in the brain substance; in all my cases the new material has been on the surface, and involving the membranes. Instances have occurred to me where the symptoms could hardly be explained except on the supposition of a deep-seated affection, and therefore I am quite prepared for the discovery of such internal deposits as have been described; but at present, as my object is only to publish a practical and personal experience, I have no opportunity of referring to any other class of cases than those I have mentioned. Fibroplastic tumours are undoubtedly frequently met with in the brain, but in none which I have seen has there been a sufficiently good history of syphilis to warrant their admission into the present series.

All my own cases of undoubted venereal origin, where a post-mortem examination has taken place, have been very uniform in character; the surface of the brain and membranes have been united by a firm exudation, similar to that which is met with in other parts. The neighbouring bone is not necessarily affected, although this has always been the supposition until very recent times. It being an altogether modern obser-

vation that the internal organs were affected in syphilis, it was thought that if brain symptoms existed in a venereal patient, that there necessarily existed an internal node on the bone or an exostosis pressing on the brain. Such, however, need not be the case, the condition found being, as I have said, an exudation between the brain and membranes; and if the bone is affected, it is by caries, and not by exostosis.

Since the conditions found in our cases are so much alike, it is not remarkable that the symptoms in all have had a resemblance. It is well known that old adhesions of the membranes to the surface of the brain give rise to epileptiform fits, and thus it is that in these syphilitic affections of the brain epilepsy is generally the most prominent symptom, though, of course, combined with other phenomena, denoting that the brain substance is involved as well as the nerves proceeding from it. In one or two cases, where paralysis also was present, and recovery took place under appropriate remedies, it was surmised that deeper portions of the brain must have been involved.

The majority of cases which have come under my own notice have been of the following kind. The dura mater intimately united to the brain by adhesions of the serous surfaces, and this, not by cellular tissue, but by a hard, yellow substance, sometimes of great consistency, and destroying or involving the cineritious matter or encroaching on the medullary. In some cases the dura mater was externally adherent to the bone, and the latter was carious. (See Plate II, fig. 2.)

A question arises, in what tissue or part of the cerebral structures does the deposit or exudation first arise? When the bone is affected, it is very probable that this may be the starting-point, and the contiguous membranes then take up the action. When the skull is not involved, it is probable that the process first commences in the arachnoid, and that here the deposit is thrown out. If this be the case, it will account for the rarity of the exudation in the brain substance; and it may be further remarked that in the case of the liver and other organs the deposits are all towards the surface, and, as far as I have observed, their capsules have very seldom been free.

It is worthy of remark, however, that writers on syphilitic diseases of the brain have spoken of cases where they must have supposed that the cerebral tissue itself was affected, as evinced

by aberration of mind or actual insanity, or by various paralytic and other nervous symptoms, which were cured by remedies. Few cases have been published where adventitious matters have actually been discovered in the brain substance ; but if such are liable to occur, it can well be conceived that these would scarcely be visible in a case where the symptoms were no better marked than by slight mental derangements.

It has also been surmised that chronic hydrocephalus in children may sometimes have a syphilitic origin ; of this I have no case to warrant the statement, although it is, no doubt, true that in puny children, from whatever cause the cachexia may arise, there is often, with other changes in the body, an increased effusion in the ventricles of the brain.

I shall be content in the present essay to present the reader merely with my own cases.

The *nerves* may be involved in a similar adventitious material as that found on the surface of the brain, either independently at their source or from being implicated in the cerebral disease. I have no case exhibiting an independent affection of the nerve in its course and at a distance from the centre. I shall briefly allude to a case of neuroma, where the nerves of the whole body were affected, because of its occurrence in the person of a prostitute, but there was no history of syphilis ; nor am I aware that in any similar instances any suspicion of syphilis has existed. The case, however, is interesting in reference to the probability of death being caused by the neuroma of the pneumogastric nerve ; and therefore, if such might arise from syphilis, it shows that there is a second mode in which disorganization of the lung, or phthisis, as it is generally called, may be brought about in several subjects.

It will be seen that in the following cases an adventitious matter existed on the surface of the brain, exactly corresponding to that in the liver and other organs.

**CASE 1** (Calvaria, 1076 ; spleen and liver, 2004<sup>50</sup>).—Francis W—, æt. 38, was admitted into the hospital in a fit. It appeared that, ten months before, an abscess appeared on the head, having been preceded by much pain, and, ever since, a discharge had occurred from the part. Four days before admission he had a fit, followed by a temporary partial paralysis of the right side, and others had followed since. When he had partially recovered it was found that his right side was weak, and that he had sinuses on the scalp, leading to necrosed bone. Three days afterwards he had several other fits, and therefore Mr. Bryant exposed the cranium,

trephined it, and removed some dead portions. The dura mater was seen covered with granulations of lymph. No more fits occurred during the following two months, and the man was altogether better. Then again the fits reappeared, and he finally died from pyæmia.

*Post-mortem examination.*—The calvaria was found carious around the trephine hole, and the scalp was adherent to it by a yellow, tough material, exactly corresponding to that found in the liver. On the opposite side the dura mater was adherent to the bone by a like deposit, and on tearing it away some purulent matter escaped. The under surface of dura mater was, in like manner, adherent to the brain. The liver was adherent to the diaphragm, and at this part the organ was occupied by some hard, yellow masses, exactly similar to what have been found in cases of syphilis. These were rounded nodules, conglomerated together. At some distance from them there was another nodule, quite isolated. The spleen was large and adherent to diaphragm. At this spot there existed a yellow mass, about the size of a walnut, and corresponding in all respects to those in the liver. The mass consisted of an opaque yellow substance, mixed with other of a translucent appearance. These were composed of fibre, homogeneous material, and fatty granules.

**CASE 2** (Brain, 1587<sup>20</sup>; liver, 1913<sup>40</sup>).—Sophia W—, æt. 31. She was a woman of low character, and it was believed that she had had syphilis. It was also said that she had received a severe blow on the head when a child. Four years before her admission to the hospital she had an attack of jaundice; she afterwards (it was said) had a nervous fever and pains all over her. Two years afterwards her sight began to grow dim, especially that of the right eye; and she then had giddiness, followed by fits. These fits were not frequent, a month generally intervening between them. When admitted she was almost blind of both eyes, she had paralysis of motion and of sensation on the right side of the face, and she also had paroxysms of pain in the head. The pupils were dilated, and the cornea of right eye ulcerated. She had one fit while in the hospital, took to her bed, and gradually wasted away.

*Post-mortem examination.*—The calvaria was adherent to the front part of the dura mater, and had to be forcibly detached. On examining the interior of the bone, it was slightly roughened where adhesions had existed, but there was no independent disease, nor could there be found any trace of previous injury. At the anterior fossa the dura mater was united to the bone by a firm, yellow lymph; here also the bone was slightly roughened, but was not carious. The dura mater on the inner side was firmly and inextricably united to the anterior lobes of the brain, especially on the right side, and corresponding to the anterior fossa of the skull. On attempting to separate them a quantity of hard, yellow material was seen uniting them together. This filled up the sulci, and involved the eiceritinous substance. On the right side it had penetrated to the medullary matter, and here the adventitious substance formed a tumour, tolerably circumscribed on its deep side, the size of a walnut. There was thus a much greater quantity of this material between the dura mater and brain, than between this membrane and the skull, but there was an abundance of it on the petrous bones and in the cavernous sinus. The nerves, therefore, taking their exit from the skull were surrounded by it, including the orbital as well as the optic and fifth on the right side. These nerves were matted together by this hardened, yellow lymph.

The liver contained three or four hard, yellow, fibrous masses, about the size of marbles. These were near the surface, and gave a puckered or cicatriform appearance to the upper edge; kidneys undergoing granular degeneration.

*Lungs.*—The right contained along its anterior border some solid masses of inflammatory deposit. Some of these had broken up into small, suppurating cavities; other parts were infiltrated with a gelatinous, inflammatory material. It did not present any appearance to the naked eye different from the ordinary products found in disorganizing processes in the lung.

In the following case it will be seen that the patient was said to have received an injury to the head, and thus a question may arise as to the cause and nature of the product found on the brain; whether it was simply inflammatory—arising from a blow—or syphilitic, having a constitutional origin? Although, as before said, it is probable that a distinguishing mark may be found between a simple inflammatory exudation and a syphilitic one, yet in the present state of our knowledge we can only be guided as to this distinction by other reasons than those founded on the characters of the material itself.

**CASE 3.**—John D.—, aet. 30, admitted to hospital for stricture. He had had venereal disease, and now, besides the stricture, had an ulcer on the leg, with periosteal inflammation near it. Whilst in the hospital he had a fit, and falling on the fender received a scalp wound, and it was then learned that he had had one or two fits previously. On inquiring about an injury to the head, he said that, three years before, he had been thrown out of a cart and struck his head, but had not suffered with his head until lately. His bladder was punctured per rectum, and he left the hospital, but the epilepsy became more aggravated, and he was again admitted some months afterwards in an insensible state, and with a constant succession of fits, which lasted until his death.

*Post-mortem examination.*—The only scar found on the head was that received in the hospital, when he fell in a fit. The calvaria was thickened over the front part, and especially on the right side; here, within, it was slightly elevated by little nodules, indicative of a former osteitis. The dura mater was not adherent to the bone, but was thickened over the frontal region, and here it was closely adherent to the anterior lobe of the brain on the right side. The attachment was so strong that on attempting to remove it the cerebral substance was torn. The latter was involved, so that the cineritious structure was replaced by a yellow inflammatory material. Liver and other organs healthy.

The following is a case of great interest, as it would appear from the symptoms that the disease commenced on the root of one of the spinal nerves.

**CASE 4.**—Mary W.—, aet. 53. Was taken into the hospital on account of a numbness and loss of sensation over the right hip, especially along the crest of the ilium. She had no outward signs of syphilis, and the subject was not mentioned to her, as she was thought to be labouring under almost a monomaniacal idea with respect to it; her constant complaint being that her body was ruined by syphilis, which had been given to her by her husband. This feeling of numbness continued until the

leg on that side began to get weak, and subsequently, the other leg became affected. Soon afterwards a complete paraplegia ensued, with all the usual consequences in retention of urine, &c., and from which she died.

*Post-mortem examination.*—Brain not examined. Spinal cord—in the lumbar region on the right side there was a hard deposit, three quarters of an inch in length. This involved the posterior roots of the nerves, to which it was closely adherent, as well as to the spinal cord. It formed a lengthened, irregular mass, and in bulk was altogether about the size of a nut. When cut through, it was found to be composed of an opaque yellow, amorphous substance, like dead or degenerated lymph, and resembling the similar material in the liver. The liver contained two or three nodules of a tough, yellowish, amorphous substance; one of these, on the surface, produced a cicatriform appearance. The lung contained a few hard, yellow masses, which corresponded in all particulars to the similar deposits in the liver.

The following case shows that a deposit may occur within the cranium, involving the roots of the nerves, independent of any disease of the bones themselves.

CASE 5.—Caroline J., aet. 30. Was admitted under Dr. Addison into the clinical ward for paralysis of the face. She was a prostitute, and had been in the hospital before for syphilitic symptoms. She said that she had suffered a long time from pain in the head, and this at last became so severe that six months ago she went to St. Thomas's. The pain was then fixed at the back and side of the head. Thinking it might be neuralgic, three teeth were extracted, but without relief. She was seven weeks in the hospital, and states that she was delirious and insensible for seven weeks. After leaving, the face became numb, with some loss of power, and then she came to Guy's. It was then found that she had lost sensation on the right side of the face, except at one spot opposite the mouth, where the anaesthesia was not complete. She could not feel on that side of the tongue, nor was there any sense of smell; also power of mastication imperfect. The pain in the head had somewhat abated at the original spot, but had become more general. After this, paralysis of other nerves came on, as all those of the orbit, the eyeball becoming immovable, with ptosis and ulceration of the cornea. Under the use of remedies she then became better, and on leaving, three months afterwards, she could open the eye partially, move the eyeball, and lost the pain in the head. She remained at home for two months, when she again entered St. Thomas's, where she died suddenly soon afterwards.

On *post-mortem examination* several small tumours were found at the base of the brain, enveloping the nerves, and some deposit also between arachnoid and dura mater. There was one compressing the fifth nerve; another tumour was growing from the third nerve, and thus accounting for the several symptoms observed during life. The tumours were gray and hard.

The following is the case of neuroma before alluded to; there was no history of syphilis, nor any very good reason to suppose that the enlargement of the nerves was due to it. It is interesting, however, on the supposition that disease of the lung was thereby brought about.

**CASE 6.**—A woman, æt. 25, of dissolute habits, died in the hospital of phthisis. After death the whole of the nerves of the body were found affected by neuroma, or enlargement of the nerves, due to a deposition of a fibro-albuminous material in them. This condition of the pneumogastric nerves was supposed to have given rise to the disorganization of the lungs, which contained no tubercle.

In looking through our old preparations, I meet with the following, which strongly suggests a syphilitic origin for the disease in the brain.

**CASE 7** (Prep 1584<sup>50</sup>, portion of brain, with membranes adherent).—Elizabeth S.—, æt. 50, a night-nurse, in 1828. For two years she had been subject to considerable pain in the head, and during this time also to fits resembling those of epilepsy. For a few days before her death she had repeated fits of tremor and loss of speech, but continued sensible.

*Post-mortem examination.*—On the anterior part of the right hemisphere the two surfaces of the arachnoid were closely and firmly adherent to each other. There were at this part several small granulations, which appeared to have their seat immediately beneath the arachnoid lining of the dura mater; these tumours, some of which adhered to the brain, were scarcely so large as peas. The liver contained two white tubercles on its surface.

I have already said that in the fatal cases the disease has been found on the surface of the brain, but in some which have recovered the symptoms have indicated a deeper seated change. Such a case is the following, where paralysis coexisted with epilepsy, and therefore suggestive of a very grave lesion of the cerebral structures. A temporary hemiplegia is often seen to occur in epilepsy, but a persistent one, as in the annexed case, appeared to show more than the usual cerebral derangement of this disease. The cure, under iodide of potassium, is one of the most remarkable that I have ever witnessed.

**CASE 8.**—Robert C.—, æt. 36. He was a carpenter, but formerly had been a soldier in India, and was invalided, owing to rheumatism or pains in his limbs. Two months before admission he had a fit whilst walking in the street, and on recovery he felt his left arm and leg numb and weak. He has had about a dozen fits since, and in some of these he has not lost his consciousness, but he foamed at the mouth and bit his tongue. Two days before admission he had a fit, followed by a great loss of power of the left arm and leg. On admission he was exceedingly ill, complained of great headache, and had partial paralysis of the left side, the arm being almost powerless, but the leg he could move a little. He soon after had three fits, in which he was convulsed all over, and screamed out. This he had done in previous attacks, and, it was said, acted like a madman, although in the slighter attacks he had retained his consciousness. In the intervals he complained of pain in the right side of the head and neck, and was so weak that he could not move his head from the pillow. He was almost totally paralysed on the left side; the

weakness increased since admission; sensation perfect; no paralysis of face; eyes unaffected, pupils natural; also great difficulty of swallowing, and mouth aphthous. His wife was sent for to sit up with him, as it appeared scarcely possible that he could survive long. As the patient had never been in a condition to give a good history of his case, his wife was questioned, and she said that he had had a fall two or three years before, also that he had long suffered from pains in the limbs, and that she had had several miscarriages and dead-born children. The patient was then again examined, and it was found that one clavicle was enlarged, as well as the os femoris on one side. All these circumstances suggested syphilis, and therefore the iodide of potassium, in ten-grain doses, was given. He began at once to improve in a most remarkable manner; only one or two more fits occurred; the paralysed limbs began to get stronger, and complete consciousness returned. His general condition also improved, and at the expiration of three weeks he was able to leave his bed and walk about. At the end of another week he had only a slight dragging of the foot, and he left the hospital convalescent, at the termination of not quite a month after the commencement of the medicine. The case afforded the most remarkable recovery I have ever witnessed from a disease of this severe character.

#### EYE, EAR, TEETH, ETC.

Various other affections, fully described by surgical writers, I need not dwell upon, such as *iritis*, although it would be interesting to ascertain the relation which the nodules of lymph on the iris hold to simple inflammatory exudation, and the resemblance to the syphilitic deposits in other parts of the body. Nor need I but allude to the affection of the cornea formerly styled strumous, and which Mr. Hutchinson has so well illustrated by cases in his lately published work under the appellation *syphilitic interstitial keratitis*. It is interesting, however, to remark, in reference to the statement made at the commencement of this paper, that it was merely the external parts of the body, and those which come immediately under the view of the surgeon, which were thought to be affected by syphilis, and thus that the iris was considered to be the only part of the eye affected by syphilis, whereas now we are informed that the cornea, conjunctiva, choroid, retina, and, in fact, all the structures of the organ, may be involved in a syphilitic inflammation.

I will only remark, as regards the *teeth*, that I consider Mr. Hutchinson has well made out his case respecting the alteration they undergo in syphilis, although the doctrine has not yet pervaded all branches of the profession. I have myself no doubt that the notched condition of the upper incisors is the

result of syphilis, and is due to an alteration in the form of the tooth when in the pulp, owing to the stomatitis which so often exists in the tainted child. I have seen this condition too often in association with a flattened nose (owing to an expansion of the nasal bones during an infantile periostitis), with corneitis, and other signs of syphilis, to doubt that it has been caused in the manner which the above-named surgeon maintains. (See Plate I.)

As regards the organ of *hearing*, this may be affected in syphilis, and principally in three different ways—from disease of the bone, from affection of the auditory nerve, or from contraction of the Eustachian tube in connection with ulceration of the pharynx.

The *skin* also has been a part so ably treated of by surgeons, that I need only say that in this organ, as in others, the same disposition to the formation of an albuminous product is seen. After the earlier exanthematous rashes, the disposition to the tuberculous form is well known, as well as the formation of condylomata. I might allude to a case published in a former number of this work, where keloid growths sprung up on the skin of a venereal patient, and thus showing the disposition to fibrous development.

The same disposition to the production of albuminous products in the skin has led some to think that there is a connection between syphilis and elephantiasis, especially in that form witnessed in Sweden.

The following case, in connection with a preparation in our museum, will show how the ear may become affected in syphilis.

Prep. 1592<sup>84</sup> shows the temporal bone in a state of caries, with some purulent matter between it and the dura mater.

John B—, aet. 37, under Dr. Back, in 1828. He had been a soldier, was of intemperate habits, had had syphilis, and taken large quantities of mercury. For some weeks he had suffered with pain and discharge from the left ear, and on admission he was found to have ulceration of the throat, with loss of the soft palate. Shortly before death there was a large discharge of matter from his ear. The post-mortem showed caries of the temporal bone, with inflammation of the lateral sinus and jugular vein, together with small abscesses in the lungs.

## TESTIS.

A deposit in this organ is very common, and often very characteristic. A section through it shows a number of nodules of a firm, yellow material, more or less circumscribed, but generally associated with some fibrous tissue pervading the gland-structure around, and causing its contraction. Thus, sometimes a general fibrous degeneration may be met with, and these nodules in the midst, so that little of the organ remains. If the deposit be in large masses and recent, the organ may be somewhat increased in size, but usually, when met with, it has undergone some contraction, and is smaller than natural. As in other organs the covering may be affected, so here the tunica vaginalis is often found adherent to the surface of the testis. (Plate II, fig. 4.)

I do not wish to connect the subject with any matter purely surgical, but I believe that the older surgeons did not regard an orchitis as one of the ordinary effects of syphilis, and those authorities whom I have personally questioned have not regarded it as one of the ordinary results. This would show that the deposition of albuminous matter and the fibroid changes have been slow and painless in their character, and thus been passed unobserved both by the patient and his medical attendant. This has been my own experience, and thus very often the state of the testes has been found accidentally after death in those who have never, during life, had any suspicion of disease of the organ, although this is by no means always the case.

During the last session of the Pathological Society, Dr. Ingram exhibited an enlarged testis, taken from a child the subject of hereditary syphilis.

CASE 1 (Testes, 2351<sup>57</sup>).—William C—, aet. 25, admitted into the syphilitic ward with an eruption and disease of the larynx; subsequently phthisis came on. After death a vomica was found in the upper part of the left lung, with some inflammatory deposit below it, and recent pneumonia at the base; other lung healthy. The epiglottis was quite gone; the glottis was thickened, and the neighbouring parts cicatrized; the disease, in fact, was cured. The liver was large and fatty. The testes were small, and occupied by streaks of fibrous tissue; in fact, they had almost completely undergone a fibroid degeneration.

CASE 2 (Testes, 2351<sup>58</sup>).—Thomas J—, aet. 34, a sailor, admitted into the hospital suffering from chronic dysentery and syphilitic rupia sores on the body. The

colon was extremely ulcerated, but particulars need not be here described. Liver contained an excess of fat. Both testes were very hard, the right was undergoing fibroid degeneration, the tissue being replaced by a tough fibre pervading it. The other contained isolated round masses of a yellow inorganizable deposit.

**CASE 3** (Prep. 2349<sup>45</sup>).—A testis containing some hard yellow masses, which were styled serofulous. They are unorganizable, inflammatory deposits, and probably syphilitic, as they correspond entirely with similar cases.

John E.—, æt. 27, died of empyema of right side, together with chronic pneumonia of parts of the lung. There was also recent pericarditis. On the posterior border of the liver there was a cheesy mass, partly projecting and partly imbedded in the substance of the organ. Some of the neighbouring glands were also enlarged, and contained serofulous (?) matter. The deposit in the liver is said to be of the same kind as that in the testes.

**CASE 4.**—This refers to Prep. 2351<sup>55</sup>, and a description of the ease is found under Liver, No. 1, where the calvaria was much diseased. The testes were much wasted, very hard, and fibrous. The glandular structure had disappeared, and in them there were distinct nodules, exactly like those in the liver.

**CASE 5.**—This refers to Prep. 2351<sup>40</sup>, and description of the ease will be found under Spleen, No. 1. Here the testes were very hard, and their structure almost completely destroyed by fibroid deposit in the form of nodules. One contained these isolated, the other in a mass filling the organ.

**CASE 6.**—This is described under Case 13, Liver, where the latter contained a deposit, and the testis one exactly like it.

In the following case I have no doubt that the deposit in the testes had a syphilitic origin, but the ease is interesting also in reference to the remarks made under the heading Lung, where the connection between syphilis and serofulosis is spoken of. It is held by some that the latter is nothing more than hereditary syphilis; but however questionable this may be, there can be no doubt that the effects on the system are often much alike. Thus, in the annexed ease the laryngeal disease, disorganization of the lung, ulceration of intestine, and amorphous deposit in the testes, might be regarded as undoubtedly serofulous, but we have seen how all these conditions are equally produced in constitutional syphilis. Those who would maintain a direct relation between the two diseases would have no difficulty in showing by such cases how a person broken down by the venereal disease would fall a victim to tuberculosis.

**CASE 7.**—William P.—, æt. 42, had led a very dissipated life, and had had syphilis. For four years he had had chest symptoms, for a less period total loss of voice, and of late diarrhoea.

*Post-mortem examination.*—The larynx was much affected by old disease, the vocal cords being entirely destroyed, and its appearance presented rather the effects

of syphilis than tubercle. The lungs were adherent by very dense, tough fibrous tissue; the left was in that condition known as cirrhosis; that is, it was very dense throughout, the upper lobe especially being converted into a tough fibrous tissue, and little else was seen than the tubes passing through it. The other lung was similarly but less affected. The colon showed some isolated contracting ulcers, which were cicatrizing. The left testis contained a large mass of inflammatory deposit.

*Connection between scrofula and syphilis.*—In the above case the point of interest refers to this question; and as it is one which is raised every day, I cannot do better than quote two cases which have lately been under my care, in order to show that we should not be too ready to style every case of cachexia scrofulous, and that we should be awake to the existence of hereditary syphilis, even in the adult. In the following case the disease had always been regarded as scrofulous, but no good arguments could be used against the suggestion of syphilis. A very similar case of a young man, with enlargement of the bones, waxy viscera, and a characteristic flattening of the nose, was lately under my care, but the report of the case is, unfortunately, mislaid. His had always been regarded as a case of scrofula. In the second case, next given, it will be seen that the lad was more benefited by mercury than by any other remedy, a fact which must be used as an argument in favour of the syphilitic nature of his disease.

**CASE 1.**—Frederick P—, æt. 20, admitted October 31st, and died December 26th, 1860. The lad had been under my notice for several years; he was very diminutive, and had not yet arrived at puberty. His tibiae were bent forwards, and somewhat enlarged. The soft palate was quite destroyed, leaving a large, ragged ulcer; there was a hole in the roof of the mouth, whence some bone had been removed. The nose was also flattened. It was a question whether this lad was suffering from strumous disease or hereditary syphilis. On his last visit, as an out-patient, his legs were oedematous; he was then taken in, and the urine was found to be albuminous. The liver and spleen were felt to be enlarged. He died at last of acute peritonitis. It was thought, from his general cachexia, that the organic disease of the viscera was of the lardaceous kind.

*Post-mortem examination.*—Body wretchedly cachectic looking, and appearing like that of a child. There was acute peritonitis, and, besides this, adhesions in several parts, especially in the upper part of the abdomen, the liver being closely adherent to the diaphragm above, as was also the spleen. The liver was very large, and lardaceous throughout. Spleen much enlarged, and lardaceous. Kidney lardaceous.

**CASE 2.**—Edward B—, æt. 19, admitted under Dr. Wilks into Stephen Ward, on

January 19th, 1859, for an ulcerated throat. He stated that he lived at Dartford, and had been ailing for two months, but his throat had been bad for only six months. His general appearance resembled rather that of a boy of twelve, owing to his extremely short stature and attenuated frame; his long eyelashes, husky cough, and wasted limbs, suggested phthisis in almost its last stage. On examination, however, his lungs were found healthy, as were all other parts of the body, excepting the throat, in which a large ulcer existed. The soft palate was quite destroyed, together with the tonsils, and the ulceration extended to the pharynx, and in front along the roof of the mouth towards the teeth. The surface was covered with a dirty green secretion, and the edges were of a dull-pink colour. The teeth were small, yellow, and notched. The surface of the ulcer bled on the slightest touch, and the whole of it presented a most unhealthy aspect, so as to suggest, indeed, to some who saw it, a dangerous nature. The boy appeared quite innocent of any syphilis of his own acquiring. His scrofulous and wasted appearance suggested bark and chlorate of potash, with wine. He continued this until February 8th, when, being no better, some quinine and cod-liver oil were ordered. Under this his health somewhat improved, but the throat made little, if any, progress.

On March 1st, after a conversation with Mr. Hutchinson on the probable syphilitic nature of the case, the patient was ordered to rub in mercurial ointment night and morning, and take three grains of iodide of potassium three times a day. From this time he began to improve, and in the course of ten days the sore was granulating, the edges were contracting, and the whole surface was rapidly healing. He soon after went out cured, as to the throat.

*Ulterior effects of syphilis.*—In the cases just alluded to I believe the ulterior effects of syphilis are seen in the production of the lardaceous or waxy organs. This form of disease may come on while the more immediate effects of syphilis on the system are still seen, and thus the fibroid deposits and lardaceous changes may be associated as before shown. It is not necessary, however, that any of these peculiar depositions take place in the internal organs, and therefore the patient may pass through the syphilitic stage, and finally fall into that cachetic state when the ulterior change comes on. In the cases last mentioned the absence of fibroid deposit did not disprove syphilis, and therefore I give the following as a very common case in illustration.

Ann O,—, æt. 47, for syphilitic necrosis of the bones of the head and face, and general cachexia. She had suffered from the effects of syphilis and mercury for twenty years. Before her death the nose and face became oedematous, and the patient sank into a quiet state of stupor, denoting an impaired action of the kidney. The body was wasted, the nose- and palate-bones were quite destroyed, nodes on tibiae, and scars existed on the extremities. Brain healthy. Heart and lungs healthy. Liver—surface nodulated and uneven from old capsulitis; the interior showed considerable lardaceous and fatty degeneration, and also a considerable increase of dense fibrous tissue, as in early cirrhosis. Spleen was considerably ad-

vanced in the lardaceous change, more than half its substance being occupied by the adventitious material. Kidneys mottled and fatty; they also contained some lardaceous material.

## PLACENTA.

With regard to the subject of syphilitic diseases of the placenta, I have no observations of my own to offer, and should have been silent on this matter had not a predecessor at Guy's Hospital made some remarks on this subject several years ago, and long before the modern views respecting the constitutional effects of syphilis had been propagated. Mr. Wilkinson King has left behind him notes of several cases of abortion where he supposed a syphilitic disease of the placenta was the cause. In reading these cases it is impossible to declare whether or not his inference was correct, for there is no means of ascertaining from his description why he regarded one form of disease as simply a deposit of fibrin from the blood, another as lymph resulting from inflammation, a third as serofulous, and a fourth as syphilitic. Certain it is, however, that cases are given where a history of syphilis was well marked, in which abortion took place, and a deposit of adventitious material was found in the placenta, and where also, under a course of medicine, the mothers subsequently bore living children.

It is a fact, of course, in every one's knowledge, that syphilitic parents constantly abort; but the reason is not always apparent, or this subject would not now be brought under notice. Where the foetus itself is much diseased the reason is evident, but where the child is apparently healthy some of the most celebrated accoucheurs have had recourse to an explanation referable to an irritability in the uterus of the mother, as a cause of its throwing off its contents prematurely. The subject, therefore, of disease of the placenta itself as a cause of abortion, is one well worthy the consideration of obstetric physicians.

The following cases are from Mr. King's notes, and on which I shall make no comment, merely offering them as highly suggestive to others; but in the last case given, No. 9, a question may arise whether syphilis contracted at the fifth month could contaminate the child. Upon this point—the in-

fection of the child after a certain period of its development—authorities differ in opinion, but several cases have been reported of a like nature to the present, which would seem to corroborate the facts there given. Ricord thinks that if infection of the mother takes place during the last three months, transmission is very doubtful, if possible, but before this it can occur.

**CASE 1.**—A woman, who had never been well since her husband gave her syphilis, had had five successive miscarriages, and now again aborted at the third month. The chorion was thickened, and surrounded by a false membrane. She had Plummer's pill administered with sarsaparilla, and since had a living child.

**CASE 2.**—A woman, who is covered with a leprous eruption of a secondary character, had already had one abortion, and now miscarried again at the third month. The chorion was coriaceous, and surrounded by a false membrane. The amnion lined by a false membrane.

**CASE 3.**—A woman, who was formerly a nymph of the *pavé*, had never gone her time, but aborted six times, and once of twins. She now again miscarried at the fourth month. The chorion was thickened and coriaceous, with adventitious membrane. Funis distended. She was treated with blue pill and sarsaparilla. The patient has since been delivered of a living female child, and is again pregnant.

**CASE 4.**—A woman, whose husband is very gay, and she herself formerly on the town. Had already had eight abortions, and now again miscarried at the fourth month. The chorion coriaceous. Amnion thickened, and lined by a false, shaggy membrane. Alterative medicines were given for some months, and she has since given birth to a living and apparently healthy child. She was again pregnant when I last saw her.

**CASE 5.**—A woman had had three living children, and afterwards had sores on the genitals, and since miscarried five times. Again miscarried at fourteen weeks. Chorion thickened, and lined by a villous membrane, easily separated.

**CASE 6.**—A woman, who has a very loose husband, and she herself covered with syphilitic lepra. She had had one miscarriage, and now again aborted at the twelfth week. She was ordered mercurial and alterative medicines, and since had a living child.

**CASE 7.**—A woman who had had syphilis aborted at her first pregnancy, at about three months. The chorion thickened; amnion dark, and lined by a villous membrane.

**CASE 8.**—A woman with syphilitic lepra had already had one miscarriage, and now again aborted. The chorion coriaceous; amnion lined by a false membrane.

**CASE 9.**—A woman, æt. 18, was pregnant five months with her second child, when she contracted syphilis. She was put under treatment, and confined to her bed for some time. She was delivered of a seven months' child in a dreadful state of putrefaction, and the liquor amnii was horribly offensive. After delivery there was considerable haemorrhage, and on examination there was found a pretty firm adhesion. This was separated with difficulty. The placenta, on its uterine aspect, presented a spot of gray colour, due to a deposit of one eighth of an inch thick.

Throughout the structure of the placenta there were patches of consolidation. The chorion was thickened and rough.

## BONE.

It has been hitherto generally assumed that the caries and necrosis of bone occurring in syphilis are of the ordinary kind, such as arise from the inflammation set up by injury; but recent investigations would tend to show that these processes in syphilis are peculiar. If this be true, it would explain much of the contradictory opinions which are held respecting the proportionate effects of syphilis and mercury on the osseous system. If, as was said at the commencement of this paper, it be considered by some that caries of the bones in syphilitic patients is always the result of an undue administration of mercury, it would be important to show that this is not so, but that the caries is of a peculiar kind, and one of the results of syphilis, occurring without the interposition of remedies. Of this I have no doubt, although, if the destruction of bone extend to a great degree, this may be due to an excess or abuse of mercury. It is to Virchow especially that we are indebted for investigations in this subject, and the result he arrives at so accords with the well-known appearance, that there is little doubt that his observations are correct. He maintains that in the cranium, for example, a similar process takes place as in other parts—a deposition of albuminous material occurring in connection with the periosteum without, or the dura mater within, and that the medullary or vascular canals are filled with the same kind of gummy substance as in other parts, when a node is produced; also that this may ossify, producing new bone, or that a caries may result. On the cranium the latter is seen forming a depressed centre, with a deposition of new bone around in a dentated form, giving it a cicatriform appearance, just as is witnessed in the pharynx or other part.

An examination of the skulls in our museum will afford sufficient illustration of this fact; several will be seen showing the cicatriform or puckered appearance on their surface, the peculiarity being the destruction of the bone at the centre and the increase at the circumference, the caries having also a peculiar worm-eaten character. In ordinary caries from injury

a destruction may be seen going on, and a development of new bone around, with smooth edges, and having the other ordinary features, without possessing the above-named peculiarities ; also, in skulls which exhibit a destruction of tissue by cancer or lupus, the bone is simply eaten away, without any disposition to the formation of new osseous material. It will be observed that the deposition of the yellow albuminous material between the skull and dura mater in many of our specimens (which we need not particularise, but refer the reader to our shelves) is peculiar, whereas in ordinary cases of disease from injury a suppuration is more likely to occur.

In simple syphilitic caries there is no suppuration, and in this lies its peculiarity and an evidence of its origin. If, after a blow on the head, even if the scalp be not cut, if the bone becomes carious in consequence, some purulent matter is generally found on the surface, or in the diploë ; but in syphilis the scalp may be quite sound, and yet, when removed and the periosteum torn off, a caries may be discovered which was quite unanticipated, and presenting the peculiarities above spoken of. It is for this reason that Virchow has styled it *dry caries*. The same peculiarity occurs with regard to a node on the tibia, which only suppurates under peculiar circumstances, and therefore requires us carefully to distinguish a true syphilitic affection of the bone from one which is merely secondary to an ulceration of the surrounding soft parts. The former is that of which I am now treating, and takes place quite independently of any affection of the adjacent soft structures. Our preparations will show that sometimes, instead of a caries taking place, the exudation ossifies, and thus the bone becomes much enlarged or hypertrophied ; and herein lies another argument against the affections of the osseous system being due to mercury, since the property of the latter drug is to destroy or disintegrate. No one, as far as I know, has yet considered enlargements of the bone to be due to mercury, at the same time that he has held the doctrine of the destruction of bone to be attributable to this drug. In a word, there is a disposition in syphilis to the production of an albuminous product beneath the periosteum and in the vascular canals of the bone. This may ossify, producing enlargement or hypertrophy of the part, or if ulceration takes place a caries results ; but here, as in the soft parts, a distin-

guishing feature is in the presence of a new material around it. As also in the former case the ulceration is likely to increase from any cause tending to a disintegration of the tissues, so the caries of the bone may extend to a great degree under like circumstances, and especially under the influence of mercury. Thus are the two opinions reconciled—that all great devastation of the osseous system is met with only in those who have taken much mercury, and yet that mercury itself does not originate disease of the bone.

It will be seen that I place together caries and necrosis as processes which cannot be separated, except in reference to the degree of destruction of the tissue, and so also with regard to periostitis and osteitis. Since the periosteum pervades the substance of the bone through the medullary canals, the albuminous matter which is exuded from this membrane may equally occur on the surface of the bone or in its intimate tissue, and therefore, also, new bone may arise in the substance or on the exterior; the one may predominate more than the other, but in many of these syphilitic cases the two processes occur together, and thus the terms osteitis and periostitis have often more an artificial than a real significance.

Reference has been made to the opinion of constitutional syphilis being the same as scrofula, and thus, in the cases given in illustration, the enlargement of the bones, which I believed to be due to syphilis, was considered by others as scrofulous. Those who maintain that the destruction of the bone witnessed in syphilitic cases is due to mercury, could scarcely admit that hypertrophy was due to the same agent, and therefore, in denying that syphilis could be a cause, they have referred it to scrofula. According to the remark just made, I believe syphilis to be the most efficient cause.

Disease of the bone is not commonly met with in hereditary syphilis, but in our museum is the skeleton of a child, three years of age, in which the lower end of the os humeri is much enlarged. There is no history, and therefore the specimen might suggest to different observers either syphilis or scrofula.

The drawing (Plate II, fig. 1) shows an example of syphilitic caries of the cranium, and of which numerous examples may be seen in any museum.

*Four Plates, representing the Effects of Syphilis on the Organs of the Human Body.*

PLATE I

Represents the face of a young woman who had suffered from the effects of hereditary syphilis. It shows opacity of the cornea, flattening of the nose, and a notching of the upper incisor teeth. The latter are drawn below on a larger scale.

PLATE II.

*Fig. 1.* Portion of cranium, showing syphilitic caries of the os frontis. The indented circumference is seen in the larger spot, and the cicatriform character in the smaller.

,, 2. Portion of brain, with the dura mater, showing the arachnoid surfaces adherent by a firm, adventitious deposit, which also involves the brain-substance.

,, 3. Portion of spleen, showing a syphilitic deposit.

,, 4. Testis, showing several syphilitic deposits.

PLATE III.

*Fig. 1.* Section of liver, showing a large deposit, with a cicatriform appearance of the surface, and with several other smaller nodules around it.

,, 2. Portion of lung, showing two deposits, one softening.

,, 3. Contraction of bronchial tube from syphilitic ulcer.

,, 4. A syphilitic nodule, situated in the glottis.

PLATE IV.

*Fig. 1.* Contraction of the upper part of the œsophagus, in consequence of ulceration.

,, 2. Contraction of the trachea, from syphilitic disease.

,, 3. Heart, with deposit in septum, probably syphilitic.





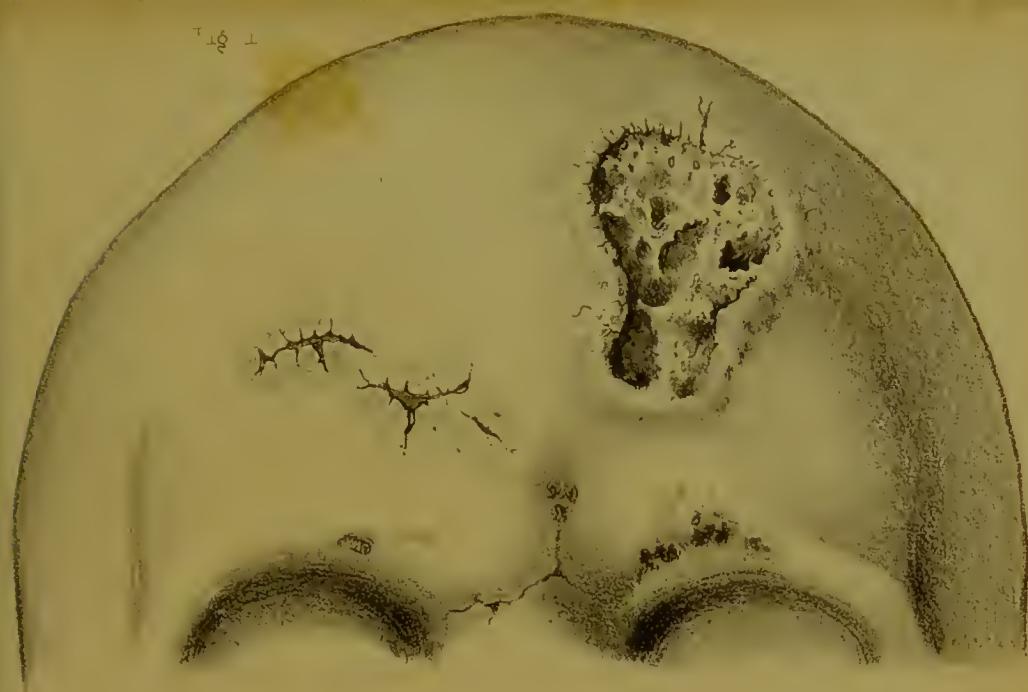


Fig. 2

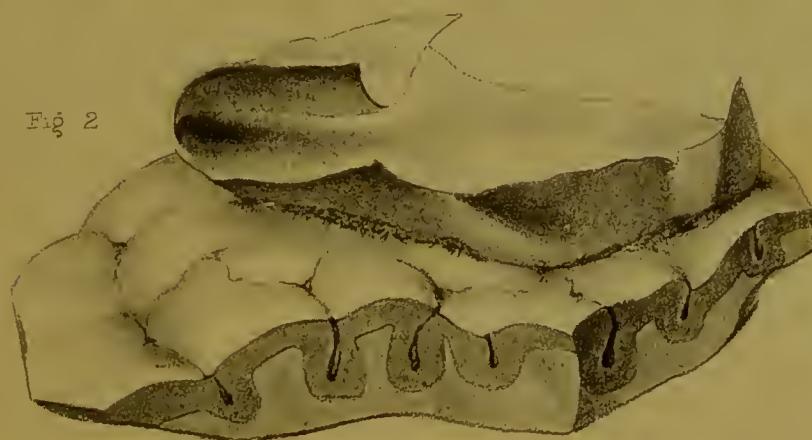


Fig. 3



Fig. 4.





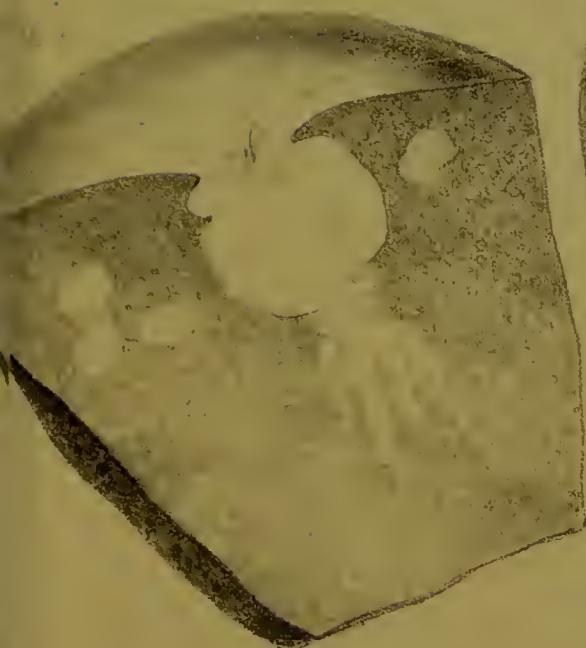
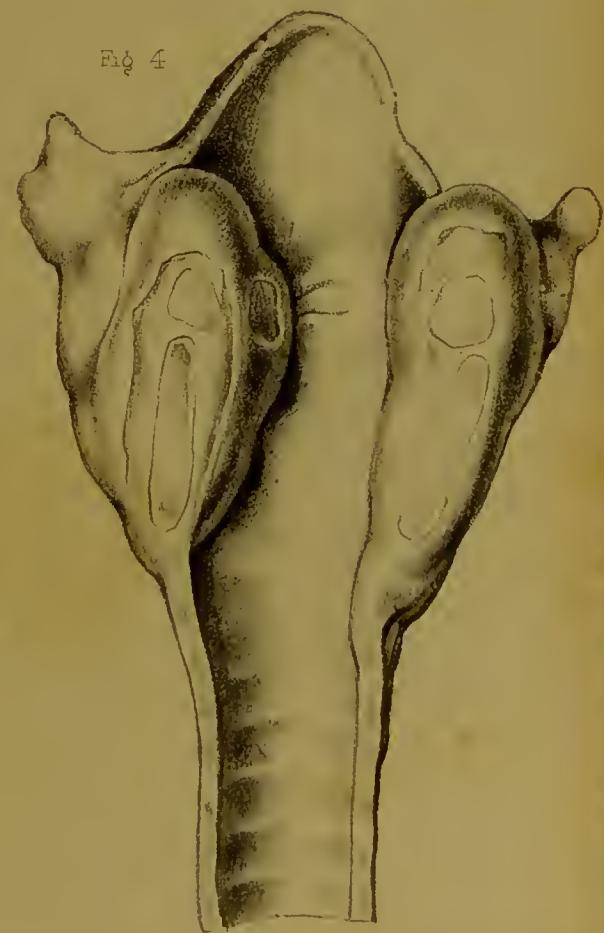


Fig. 3

Fig. 4





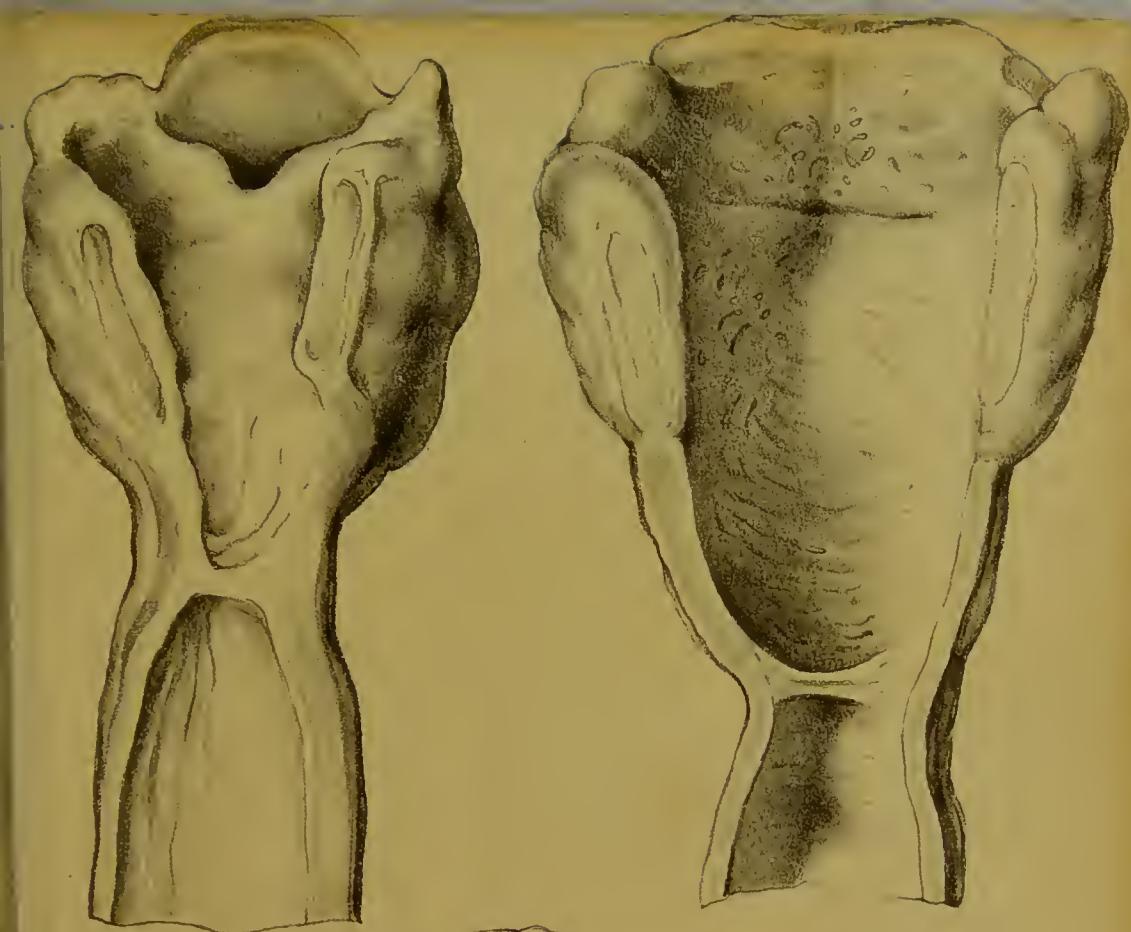
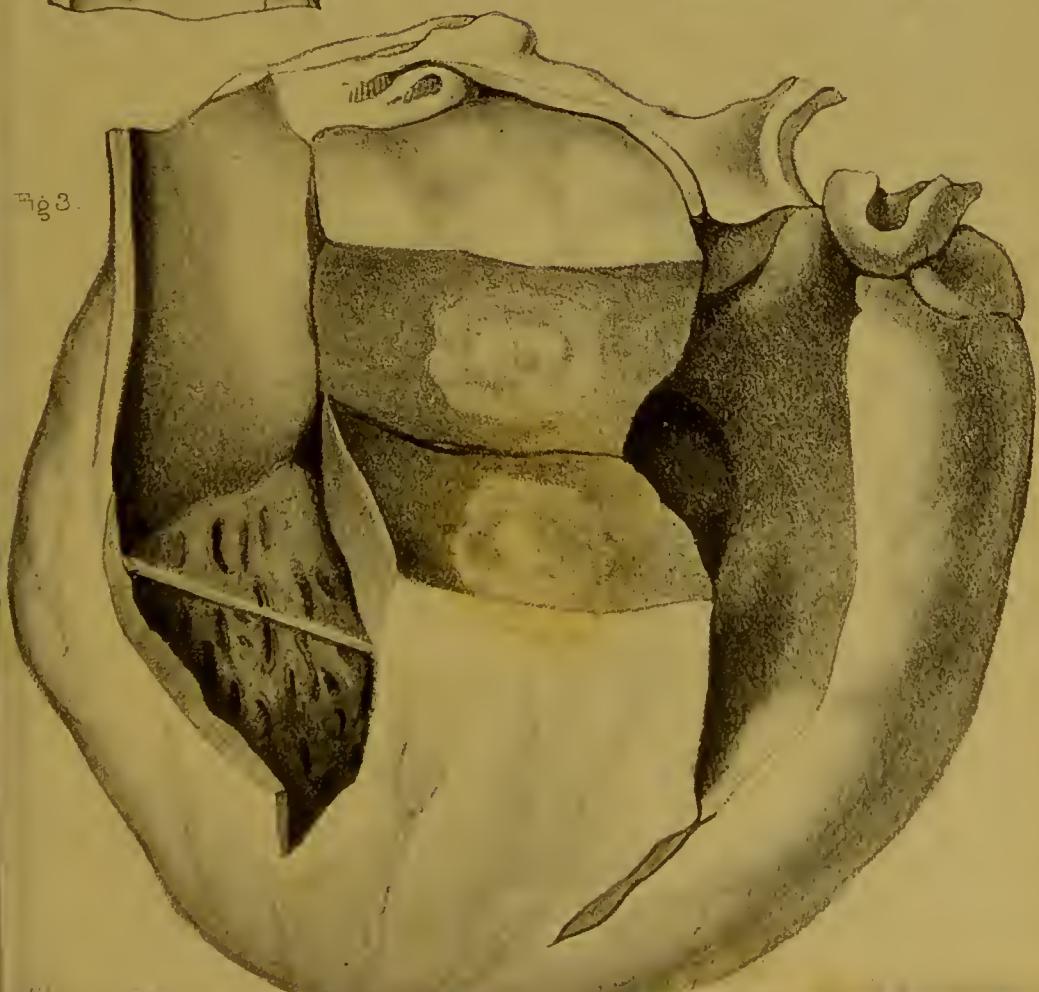


Fig 3.





SKETCH

OF



THE EARLY HISTORY

OF THE

MEDICAL PROFESSION IN EDINBURGH.

BEING

AN ADDRESS DELIVERED AT A CONVERSAZIONE IN THE HALL OF  
THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH, ON  
22D JANUARY 1864.

BY

JOHN GAIRDNER, M.D.,

FELLOW, AND FORMERLY PRESIDENT OF THE COLLEGE.

EDINBURGH:

OLIVER AND BOYD, TWEEDDALE COURT.  
LONDON: SIMPKIN, MARSHALL, AND CO.

—  
MDCCCLXIV.

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## S K E T C H.

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“What seest thou more  
In the dark backward and abysm of time?”

—*Tempest*, Act i. Scene 2.

ABOUT four years ago, on an occasion similar to the present, I undertook, at the request of the authorities of this College, to give you some account of its past history. In preparing the necessary materials for this purpose, I every now and then stumbled on curious and interesting matters which I could not then take time to investigate, but which, like tempting veins of sparkling ore, seemed strongly to invite me to the laborious operation of the pick-axe. Since that time, when leisure permitted and opportunities presented themselves, I have made various explorations, with results of very various degrees of importance; a large proportion of those results, though not devoid of interest, being quite unfitted for the purpose of my present address. In presenting you with a selection of those which appear to me most worthy of your attention, I can scarcely hope to give the kind of interest to my subject which belonged to the more connected narrative of my former address. But I shall do what I can to reward you for your trouble in coming to listen to me; and I am not without hope that I may be successful in eliciting from others some of those hidden treasures of antiquarian information which are no doubt stored up in many unexplored recesses.

You will please to observe that my subject is the early history of the *medical profession* in Edinburgh—not, as formerly, the history of our College. Yet it will certainly be in some degree supplementary to what I have already given you, because the history of the College has always, and especially in early times, been to a great extent that of the profession in this city, and also because its records will form the most prolific source of my information.

There can be no doubt that our profession must have had a large share in the stirring events by which, in the centuries through which it has lived, the history of our country has been distinguished. The manners, morals, religion, modes of thinking, and form of government of Scotland have all been greatly changed. We have, as a nation, been well schooled by adversity, that "stern, rugged nurse" of the virtues, which, alternating with fitful gleams of prosperity, like sunbeams struggling through the clouds of a tempestuous morning, has deeply, perhaps indelibly, impressed our national character. The relation which our busy profession bore to those mighty changes, and *their* influence in promoting and retarding *its* progress, are subjects of which you will probably desire to know more than I or any one living can tell you. I am only able to afford you a few glimpses, such as I should scarcely have ventured to offer you, but for that kind indulgence of which I have already had such flattering experience.

I have to acknowledge, as on the former occasion, the valuable aid which I have received from various quarters; and more especially from Mr W. Fraser and Mr Joseph Robertson of Edinburgh, and from the Rev. Mr Brewer and my youngest son James, both of London,—all of whom are professionally acquainted with the history of those times of which I shall have to speak. The various public records, and the public libraries in this city, have also been opened to me with that liberality and courtesy which are uniformly extended by their custodians to those who are engaged in literary or historical investigations.

I have told you that the surgical part of our profession had its cradle here, as in London and elsewhere, among the tradesmen of the city, was associated with the barbers, and was intrusted with a monopoly necessary to men whom the government could not protect, and who were therefore obliged to co-operate for the vital purpose of self-defence in a lawless age. If this state of things, historically considered, appear to you degrading to us, I greatly differ from you. Ancient institutions resemble ancient families. Some of these, rejoicing that their

"blood  
Has crept through scoundrels ever since the flood,"

are proud of an origin which connects their family history with deeds of rapacity and of savage violence. Some owe their laurels

to the favour, perhaps to the vices of the powerful ; while some, altogether unaided by power, have fought their own way to the position which they hold, by the steady pursuit of objects beneficial to mankind. We cannot be responsible for what happened before we first creped upon the surface of our planet, and therefore there can be no just ground, in these different modes of origin, either for self-eongratulation or for self-abasement ; yet, as a mere matter of taste, I would rather that the Lyon King-at-arms had emblazoned a razor on our shield, than that he had decorated it with that bend sinister with which many glorify themselves, as establishing their descent from some licentious king and from his paramour, both probably alike contemptible.

The fact that the practitioners of the healing art in all its forms, and at every period, had but small favour and little patronage from the great ones of the earth, has been useful to us in many senses. In darker days, the lawyer was made the instrument of the grossest extortion, and was not suffered, either as a judge or as a pleader, to be guided by any fixed principles of justice. The theologian, under various pretences, was made the slave of consistories, of parliaments, and of foreign ecclesiastical authorities, and was deprived of his right to employ the powers of his own mind on his own subjects, or at least to speak with freedom his own real thoughts. Both law and theology thus suffered by the miserable thraldom to which they were subjected. It has been quite otherwise with medicine, and with *its* professors, who have almost always enjoyed the high privilege “ *et sentire quæ velint, et quæ sentiunt dicere.* ” We have had many schools and many sects ; but happily for us—happily, too, for those who do us the honour to consult us—we have ever been totally unacquainted with any such thing as a jurisdiction over our professional convictions. We encounter medical errors of opinion all the more confidently, because no human power selects for us the argumentative panoply in which we go forth to the battle. Had our medical orthodoxies and heterodoxies been fitted for engines of power in the hands of statesmen and of priests, we should have been just what the other learned professions were. But even the bluff King Henry VIII., the veriest pope in theology, and, in his own conceit, very learned in physic also,<sup>1</sup> did not lop off the heads of physicians or surgeons for differing from his infallibility on the subjects of their profession.

<sup>1</sup> The prescription-book of Dr Butts, his physician, in which many of the prescriptions bear to have been “ devised by the King’s Majesty,” is still extant in MS. in the British Museum.—MS. Sloane, 1047.

The humble origin, therefore, of the Surgeons, amidst the handi-craftsmen of a city, was not without its attendant advantages. The more humble it was, the greater was the merit of those who rose above it. I heartily admire the spirit of the successful blacksmith, who, on being twitted by a man of rank with his humble origin, told the aristocrat that if *his* origin had been similar, he would have been a blacksmith still. Like him, I feel an honest pride in our having risen in public estimation by efforts to be more and more useful.

Some weeks after the publication of my former address, a clergyman possessed of the *gusto* of an antiquary did me the honour to peruse it, and informed me, that when he studied at Oxford, half a dozen years before, those barbers who dealt with the University men were required to be matriculated members of that ancient University; and that, once in each year, the senior proctor invited them to supper, and, in return for the courtesy, was presented by them with a certain number of pairs of kid gloves. Some of the Colleges of the University—Corpus Christi was mentioned as one—had, under their statutes, a *tonson* as a regular official. I have since had a communication from a distinguished member of that University, from which it appears that recent legislation has, very much to his regret, altogether done away with these curious traces of the past. Perhaps those who are better acquainted with the history of the older universities of this and of other countries might be able to state many similar usages among them. The barbers' emblems, the ribbon and the pole—the former for tying the arm, the latter to be grasped by the patient during the operation of bleeding—are still displayed in almost every part of Europe, and bear testimony to the universality of the ancient connexion of the barbers with the surgeons, and to the necessity of tracing it to some widely diffused cause which has now ceased to operate. And I have been indebted to the historical researches of my son James for what I conceive to be the true explanation of the phenomenon in question. The monks, as all the world knows, required to have their heads regularly shaved; but it is not by any means so well known that they required to be bled at stated periods. “*Minutus est*” was the form of words descriptive of one who had undergone the operation, the meaning being that he had been *minutus sanguine*—*i. e.*, deprived of blood. I find that in the monastery of St Vietoire at Paris there was an order which prescribed such minution to be practised five times in the year, and which was in these terms:—“*Prima*

est Septembri; secunda est ante adventum; tertia est ante quadragesimam; quarta post Pascha; quinta post Pentecosta."<sup>1</sup> The monks, therefore, required to have about them those who could perform both of these operations skilfully; and as they occupied most of the high and lucrative offices, both in the state and in all the professions, they could afford to reward those whose services were necessary to them.

Habits once established in society often survive their causes—an interesting illustration of which will be found in the fact that the Faculty of Physicians and Surgeons of Glasgow, an institution which took its origin thirty-nine years later than the Protestant Reformation, in a city eminently Protestant, contained barber-surgeons from the first. They probably became obsolete there, as here, by the early institution of *single* barbers, who were not permitted to interfere with surgery, and by the voluntary description by the surgeons of the inferior occupation, as the higher became more scientific and more important. The only trace of the old connexion in Edinburgh is the payment of a small annual sum to the society of barbers by the surgeons. It is a trace which, on account of old associations, I should be sorry to see done away with.

Edinburgh, the city of John Knox, was pre-eminently the headquarters of the Protestant Reformation in Scotland, and therefore the relations of an old Edinburgh incorporation to that great religious and political movement are naturally a matter of some curiosity. On this subject, the first thing which occurs to me is the fact that our ancestors of this College were all regularly sworn, at their entry as members, to "continue in the profession of Christ's blessed evangell as the same is publicly preached within this realm." These words were clearly intended to exclude Roman-catholics from a profession which, in its essential nature, owns no distinction of creed. How far they *did* exclude them is a different matter. There is certainly quite sufficient evidence of the attachment of the mass of our early predecessors to the Reformed Kirk, of which some of them were elders. As one proof of the fact, I may mention a beautiful and very catholic form of prayer, which has probably been in use among us from the very earliest days of Protestantism, and quite certainly from 1581, the date of the commencement of our oldest minute-book. A traditional belief, which is probably well-founded, has prevailed among us, that it is the composition of

<sup>1</sup> Dueange's Glossarium mediae et infimae Latinitatis, sub voce *Minuere*.

John Knox himself. In 1593, a prayer was introduced into the town-eounceil, whieh eontains some of the same forms of expression. Our own form is still read at the beginning of all our meetings. It is probable that even the Fellows of the College, to whom it is thus made familiar, may wish to make themselves aequainted with the original edition of it, as it appears in the first page of the book I have alluded to. It is as follows:—

“O eternal God, and our loving and mereifull Father in Christ Jesus, seeing we are eonvennit heir to treat uppon these things that eoneernis our ealling, we beseik thee, O Lord, to be mereifull to us, and giff us gracie to proeed thereintill without maliee, grudge, or partialitie;—sua that the things we may do may tend to the glorie of God, the weill of our voeation, and eonfort of every member of the samen; throw Jesus Christ, our only Lord and Saviour; Amen.”

I have told you, in my published address of 1860, that by our earliest charter, dated the 1st July 1505, we were bound to “uphold ane altar in the College Kirk of Sanet Geill in the honour of God and Sanet Mongow our patron.” This was, of course, ill suited to the taste of our zealous Protestants fifty-five years after; and, aeeordingly, I find that in the allusions made to that charter in the minutes of the entry of new members, and also in the indentures of apprentices, the words “execept idolatrie” are generally inserted, in order to qualify its obligations.

Perhaps some of you, who have not looked euriously into the history of the time, may be surprised to be told that these early Protestant and Presbyterian predeessors of ours were far from being so exaet as we ourselves are in observing the first day of the week. But it is the indubitable faet that they not unfrequently held meetings of various kinds on that day,—meetings for the admission of new members, for the election of office-bearers, for the eollection of money, for ealling to aeeount disobedient and refractory members, for making laws,—in short, for business of the most seeular deserption imaginable. For nearly a eentury after the Reformation, such meetings oecurred every now and then, the last of them, so far as I know, being on 6th March 1653.<sup>1</sup> But you

<sup>1</sup> The days of the week are not named in the minutes, but I have ascertained that the meetings of the dates subjoined were all of them Sunday meetings; others may possibly have escaped me, though I think they cannot be many:—30th June 1588, 26th September 1591, 17th September 1615, 13th September

must not suppose that we were in this respect better or worse than our neighbours in those times. Sunday markets were held in the end of the sixteenth century, and were abolished only in 1592; and though public worship was regularly observed, no constraint was then put on individuals or on public bodies in regard to their modes of observing the day. It is difficult for us to imagine the state of opinion on this subject which then existed. The Sunday of the early reformers, selected as it was by the leading men among them for private entertainments;<sup>1</sup> for marriage-feasts, with dancing, fireworks, and various kinds of merry-making;<sup>2</sup> and for public entertainments, such as the festival in honour of the friends of Queen Mary, on 31st August 1561, after her arrival from France,<sup>3</sup> and the festival in honour of the Danish friends of King James and his queen, on 24th May 1590, after their arrival from Denmark,<sup>4</sup>—the entertainers, in both cases, being the magistrates of this city,—was indeed a very different thing from the Sunday of a century later, which, rigidly enforced by serious penalties, left nothing to the consciences of individuals. And those opposite phases of the day were almost alike dissimilar to the day of rest with which we are ourselves

1629, 4th June 1637, 13th September 1640, 22d September 1644, 13th September 1646, 5th October 1651, 6th March 1653. Of these meetings the earliest was for the admission of a member; the second is that of which I have given an account in the text (p. 12); six of the others were for electing office-bearers; one was for calling to account a barber for some illegal doings; and one, the last of all, is expressly called in the minutes, “ane money meeting.”

<sup>1</sup> *Inventaires de la Royne Deseosse*, printed for the Bannatyne Club in 1863, preface, p. lxxix. This volume is just contributed to the Bannatyne Club by Lord Dalhousie. I have been greatly indebted to the preface, which is from the accomplished pen of my friend Mr Robertson. From the references he has given in the same page, it appears that Knox travelled, wrote letters, and entertained noblemen and ambassadors on Sunday.

<sup>2</sup> Same book, preface, pp. lxxvii. and lxxviii. The allusion is to the marriage-feast of Murray, the Queen's brother, then Earl of Mar, in 1562. The marriage was in St Giles' Church, where Knox preached the sermon, and from whence the cortège proceeded to the banquet at Holyrood Palace.

<sup>3</sup> Same book, preface, p. xxxvii. note 1. It was held in the old archiepiscopal palace, which still exists at the corner of the Cowgate and of Blackfriars' Wynd, east side. See also Town-council Records, 26th, 27th, 28th, and 29th August 1561, in vol. iv. pp. 14, 15; and *Diurnal of Occurrents*, pp. 66, 67.

<sup>4</sup> Town-council Records, 21st May 1590. It was held in the “lugeing” of “Thomas Aitchison, master of the cunzie house [the Mint], at Todrike's wynd fute.” This tenement is also still in existence, and is a very little to the east of the other, in the Cowgate. Ample provision was made for the hilarity of the occasion, as the minute proves. The minute has been correctly copied by Chambers,—*Traditions of Edinburgh*, p. 100.

familiar, in which statutory enforeements, being no longer in favour, have been nearly superseded, and seem likely to be superseded altogether, by that sense of its great advantages and privileges which is almost universal among us.

Of the transition, in the course of a century, from extreme hilarity to extreme aseeticism, and from extreme freedom to extreme co-ereion, there are a few traces to be found in the minutes of the Surgeons. In the reign of the first Charles, they were agitated by debates about what is quaintly called in the minutes "barbarizing on the sabbath-day." At that time the highest men among the surgeons were barbers by right, and a few of the oldest among them may still have been such in fact, though the barber trade had been then in a great measure transferred to the single barbers, not members of the body, but subject to its authority. In 1630, a refractory sabbatarian member, who had "complaint to the kirk and counsall" against the barbers for practising their trade "upon the sabbath-day," was publicly reminded that such tell-tale courses were "contrair to his aith of admission." He was nevertheless so audacious as to tell the assembled incorporation that "quha wald, quha wald not, he suld have their libertie restraintit." But he was explicitly told in reply that the barbers of whom he complained had done only what was lawful for them to do, and he was suspended from his privileges "aye and quhill he confes his falt," which he did, and was forgiven.<sup>1</sup>

Five years later, the opinion of the Surgeons was so far changed, that an act was passed by them, on the 27th October 1635, against "barbarizing on sabbath." The practicer is characterized as being "absurd and unlawful, contrary to God's Word, and debasing of servants." A fine was imposed of "fifty-augeht shillings, *toties quoties*." But it is curious that, while thus schooling the barbers, we continued our Sunday meetings, of which I find at least half-a-dozen of a later date than this act. It seems clear to me that such meetings were not then thought to be wrong, for they occurred at a period of great religious zeal and excitement,—the period of the abortive attempt to enforce the liturgy, of the signature of the Covenant, and of the memorable assemblies of Glasgow and Westminster;—and it is obvious that, if our Sunday meetings, which continued till the time of the firm establishment of Cromwell's power, had been thought to be profane, as they certainly would

<sup>1</sup> Minutes of the Surgeons, 26th June 1630. His name was James Brown. He again made a complaint against the Surgeons to the Town Council on 26th June 1639, and was again pulled up for it, and obliged to apologize.

at a later period in the same eentury, there would not have been wanting rough warnings from such people as Jenny Geddes, the Tron Kirk green-wife, who, on Sunday 23d of July 1637, corrected the theological errors of Archbishop Laud, and of Charles the First, with such heroic intrepidity and with such remarkable success.

You may perhaps feel some interest in the fact that, on the 25th of August 1638, the Surgeons of Edinburgh signed the Covenant, and “ordained their haill prenteisses and servands to subscryve the same als weill as themselfis, and that there sall be in no tyme eumming any freeman admittit, either chirurgeon or barbour, nor any buike prenteisses or servands, but sic as shall subscryve the Covenant.”

In one word, private judgment was a thing not understood or not admitted by our ancestors. But let us not be in hot haste to condemn them. *Our* most excellent sovereign has as little of the wish as of the power to force on us an unpalatable religion, and to compel us to take up an attitude of self-defence against spiritual aggression. If, after the lapse of much more than two instructive centuries, we discover, on self-examination, that we are in the number of those who do not fully confide in the power of truth and of our own arguments, with a fair field and no favour, to do sueccssful battle against error, and who still rely on penalties, monopolies, disqualifications, and coercive clauses in old acts of the Scotch parliament, to keep us from going wrong in such matters as those to which the Covenant related, let us, in that case, be silent censors, not of our forefathers, but of our own noble and infallible selves.

The reformation of 1560 was far from being a mere echange of religious *opinion*. It consigned Scotland to the guidance of leaders who were earnestly bent on effecting a very neecessary improvement in religious *conduct*. The Scotch branch of the Roman-catholic Church, far removed from its ecclesiastical authorities, and therefore less controlled by them, was to a great extent subservient to the purposes of our privileged orders; and its high places were filled by minions of men in authority, to an extent not known in the same Church abroad, and by bastards of royal and noble families, which was in direct contravention of the well-known laws of that Church. Historians, accordingly, are all agreed as to the brutal violence and gross licentiousness of the earlier part of that century. The habits of a people could not be suddenly changed; and there are

to be found in our records proofs of the exceeding difficulty of the task ; increased, in the ease of the Surgeons, by some things in their position and occupation which it may be worth while to explain to you. In those days, we had neither hospitals nor medical schools ; and as apprenticeship was the sole means of medical instruction, it was thought necessary that the apprentice should live in family with his master. The correctness of his deportment was on this account a matter of no small importance, and therefore all things connected with apprenticeship were subjects of very strict legislation. It was part of the system both of this and of most other corporations in Scotland, that the sons and the sons-in-law of members were admissible by mere examination, without apprenticeship, and at a low rate of entry-money, which was not the case with strangers. A strong inducement was thus held out to the apprentices to be attentive to the daughters of their masters ; and our records show that not a few of them attained to our Fellowship through this very agreeable channel. But as the rose has its thorns, and as the brightest sunshine may be followed by occasional clouds, so the golden opportunities of intimacy with the young ladies in which the young gentlemen rejoiced were not a little calculated, under certain circumstances, to bring them into unpleasant collisions with their masters. It would appear that sometimes accidents had occurred of a kind not even yet unknown to the *perfervidum ingenium* of Scotland, though now happily very unusual among the women of the educated classes.

Our predecessors determined to put a check on these irregularities, and assembled for this purpose on one of those Sunday occasions of which I have told you. The meeting was held on 26th September 1591. The conditions of admission to the body were brought under consideration, and it was enacted, that in future the sons-in-law of members should have no privileges above other intrants in right of their wives, in the case of the latter having been guilty of levity prior to their marriage. The statute is not expressed in quite such drawing-room language as that which I have employed ; for our ancestors had an important duty to perform to themselves, to their families, and to the cause of public morals. The evil they had to put down was a serious one, and it was necessary that their legislation should be clear and intelligible. The law itself therefore, and the allusions to it in some of the earlier minutes of entries of sons-in-law, are expressed in terms which remind one of the simplicity and directness of the patriarchal times. I give them

all credit for employing the powers they possessed for a purpose so useful and so necessary.

Let me give you another specimen of the lawlessness of those times.

It sometimes happens that a few pregnant words committed to writing at the moment will give us a more perfect photograph of a former state of things than whole pages of laborious and learned disquisition. Such a photograph I lately managed to disinter from our minutes, of a somewhat later but still very ancient period, as if from a Scotch Herculaneum; and that with no small difficulty, for the character was very antiquated, and the handwriting very badly executed. It appears that the Surgeons' apprentices had become insufferably turbulent and unmanageable. There was but one possible remedy, that of threatening them with the forfeiture of their privileges, and *that* remedy it was the object of the minute of the 7th May 1612 to apply. It is in the following words:—

“ Whilk day the Decone and brethren under subscryvand beand convcnit in the Decone's house, and respecting and considering the insolencie of thair servands and prenteisses, how thay ar sa gevin to licentiousness that thay will not be correctit, sa that not only in evil specches but als be way of doid thay will misserve thair maisteris and wilfullie gainstand thair will and correction, therefore it is statut and ordanit that nane of thair prenteisses or servands, prnt or to cum, sall use or weir ony dager, quhinzard, or knyff except ane knyff to cut thair meit, wanting the point. Under the paine of tinsell of thair freedom and liberties of the said craft, and all utheris privileges and liberties that thair may enjoy throw thair maisters. And that nane of the saids prenteisses or servands mis-call nor invaid thair maisteris or mastresses in tymc cuming under the paine forsaid.”

The careless clerk who penned this minute had little notion that it would be fished up after more than two centuries and a half, to make us acquainted with some of the evils of his day, and with some of those agencies by means of whieh they have been since eradicated.

War, which is one of the worst of human calamities, has at least the merit of being a great teacher of surgery. During the eighty years which preceded the civil war of 1640, Scotland was involved in no wars, though there were doubtless plenty of hard knocks going in the High Street which required the occasional appliances of surgery. But the Thirty Years' War on the Continent tempted a

number of the surgeons of this place to join the standard of Gustavus Adolphus, and of his daughter after him. Alexander Penicuik and James Borthwick were two of these. They were intimate friends, and both were men of good families and of good fortunes. Of Borthwick I told you some things on the former occasion, and I must now introduce you to his friend, who became a member of the Surgeons some years before him, in 1640. He was the representative of a family which had possessed the estate of Penicuik for a period clearly traceable to the very earliest part of the sixteenth century,<sup>1</sup> and which may have been in possession of it still earlier. He acquired the estate of Romanno, in the county of Peebles, through his mother, whose name was Murray, and who belonged to the family of Philiphaugh, in the adjoining county of Selkirk. He disposed of his family estate of Penicuik in 1647, and bought that of Newhall, on the southern borders of Mid-Lothian, in 1646. He died at Romanno at the age of 90, leaving both his estates to his son, who is known to the world as a poet, a physician, and a naturalist. He was himself also reputed to be a poet, though he has left no literary proof of the fact. He was surgeon to Banner, Queen Christina's general in the Swedish war, and was afterwards surgeon-general to the auxiliary Scotch army in England. His estate of Newhall became afterwards historically memorable as the scene of the celebrated pastoral of our Scottish Theocritus, Allan Ramsay.

The estates of Penicuik and Borthwick are examples of a fact of which I could easily produce abundant evidence, that in the midst of the general poverty of the times, the Surgeons were not *relatively* poor. On the contrary, I have good reason to believe that both in wealth, and rank, and enterprise, they held as high, perhaps even a higher, place among the men of their own times, than the medical men of the present day among the men of the present generation.<sup>2</sup>

<sup>1</sup> He or his father (but probably himself at an early age) is entered four times, viz., to his father, grandfather, great-grandfather, and great-great-grandfather, as the heir of "Pennycuik."—Inquisitiones Generales, Nos. 493, 494, 495, 496. The four entries bear the same date, Sept. 21, 1610, and the four ancestors all bore the same name, John Pennyngton, *de eodem*. Much of my information as to Penicuik is derived from the edition of his son's works, printed at Leith in 1815. In the minutes of the Surgeons he is sometimes called "Newhall." The estate of Newhall went to his granddaughter, and to her husband Mr Oliphant, who sold it in 1703 to Sir D. Forbes, uncle of Duncan Forbes of Culloden.

<sup>2</sup> From the records of Inquisitions regarding the possession of property in Scotland and other sources of information, I can prove that, of the first 150

It is also certain that our municipal incorporations in Scotland, in former times, held a far more important relation than they now do to our national interests. Constituted for mutual security, in an unsettled country, they were very great instruments of civilisation and of progress, and almost the only avenues to the acquisition of wealth. In them useful reforms originated ; in them such men as John Knox, the intrepid assertors of human rights, found the necessary sympathy and support ; nor was it till the final extinction of the last hopes of the Stuarts, and the consequent establishment of a firm government, with impartial administration of the laws, and a general feeling of security, that many of those functions which they once performed so usefully to our profession were felt to be no longer necessary.

It would require a much better artist than I am to present you with a correct portrait of the Edinburgh physician of the early part of the sixteenth century. I find from Lindsay of Pitscottie's *Chronicles of Scotland*<sup>1</sup> that "King James the Feird was weill learned in the airt of medicine, and was ane singular guid chirurgiane ; and their was none of that profession, if they had any dangerous cure in hand, but would have craved his adwyse."

From this it appears that James had physicians about him,—an inference which is confirmed by a passage in a poem by Dunbar, addressed to the same king, in which the following words occur :—

"Sir, ye have mony servitours,  
And officers of divers cures ;  
Kirkmen, courtmen, craftsmen fine,  
Doctors in Jure and Medicine."

The early dawn, therefore, of medicine and of surgery in Edinburgh was rosy-fingered to this extent, that it "began to peep" before the admiring eyes of our citizens at the royal palace of Holyrood. The doctours must have received their honours abroad, for I can discover no clear evidence that degrees in medicine were then

members of the Incorporation of Surgeons, nearly twenty were possessed of landed property. A great many more held property in houses, chiefly in Edinburgh ; six at least were nearly allied by blood or marriage to the families of the nobility ; three were members of the Parliament ; and six were surgeons to the Scotch kings. As to enterprise, the facts stated in the text, taking into account the difficulties they had to struggle against from the civil disturbances of the seventeenth century, are highly to their honour.

<sup>1</sup> Edinburgh edition, 1814, p. 249.

conferred in Scotland,<sup>1</sup> and, if any there were, they must have been exceedingly few indeed. It was, perhaps, not amiss that they consulted their very aecomplished king in their diffieulties ; for though, like his brother-in-law, King Henry of England, he came to his knowledge of medicine by some royal road, which, like the right divine to govern wrong, is now obsolete, yet I am by no means sure that *his* medical advice was not better than theirs. For the physician of those early days paid little attention to the phenomena of disease in comparison with what he bestowed on the dicta of the Greek authorities. In his own conception, he was the priest of Apollo, who interpreted to the vulgar those aneicnt Delphic oracles regarding the ills that flesh is heir to. He may be said, almost without a metaphor, to have been among the number of those who

“think to climb Parnassus  
By dint o’ Greek.”

Besides all this, he was given to superstition, to astrology, and to divination ; while it is quite possible that the king might be more praetical in his methods. In the case of that most afflicting disorder, the toothach, he proceeded in a very practical way, without eonsulting either Hippocrates or Avieenna, or any other authority, Greek or Arabian ; for, in the lists of the expenditure of the lord high treasurer, of date February 9, 1511-12, there is an entry of a

<sup>1</sup> The University of Aberdeen had professors of medicine from 1505, who were probably graduates of some university. The third of these, Gilbert Skene (1556), does not seem to have been abroad, and therefore probably was a graduate of Aberdeen. He published a tract, “*De peste*” (1568), afterwards went to Edinburgh (1575), and was appointed dootor of medicine to the king (16th June 1581)—[See Kennedy’s Annals of Aberdeen, vol. ii. pp. 368, 403, 435; also Orem’s Desercription of Old Aberdeen in the Years 1724-25, p. 272; *Fasti Aberdonenses* (published by the Spalding Club), p. 274; and *Tracts by Gilbert Skene* (published by the Bannatyne Club), preface, pp. vii. to x.]. But it does not appear to me that there was any considerable number of Aberdeen graduates in the sixteenth century, or even in the seventeenth. Of Glasgow University the same thing may be said. On 6th November 1712, there is a minute to the effect that “the faculty, considering that the professions of law and medicine have of a long time been neglected, and that the royal visitation in the year 1664 did find that the said professions ought to be revived,” agreed that they should be revived. Accordingly, Dr John Johnstoun was made professor of medicine (1st June 1714); and, some years after (29th September 1720), a Mr Andrew Grahame was made dootor in absence—[See the Institutes of the University of Glasgow, vol. ii., printed by the Maitland Club]. In St Andrews, the celebrated Dr John Arbuthnott appears to be the first doctor in physic created (11th September 1696). He was subjeeted to a trial before a board of physieians. From the tenor of the minute, it appears that the con-

payment in the following terms:—"Item to ane fallow, because the king pullit furth his twt, xiii s."<sup>1</sup> I presume that the sum paid was for his majesty's professional education, which was therefore conducted on sound, practical, common-sense principles.

There are many indications that our Scotch physicians were in little repute among us for more than a century after James IV. Foreign physicians were generally preferred. John Hamilton, Archbishop of St Andrews, a man allied by blood to the royal family of Scotland, engaged in his service in 1547 a young French physician, whose name was Casanate; and, five years later, his health being still very bad, brought from Italy, at the suggestion

ferring of medical degrees was then a new thing, and no more were conferred for six years after. Up to the reign of George II., the doctors created there do not average more than one annually. During his reign they average three, and they were much more numerous afterwards. In Edinburgh University, the first M.D. was David Cockburn, A.M., who graduated on 14th May 1705. There were fifteen graduates in Medicine prior to 1726, the date of the creation of a medical faculty in the University. In some cases the degree was conferred *ad eundem*, in some by recommendation, and in absence, but in the greater number by examinations, which were conducted by the Royal College of Physicians—[See Dalzell's History of the University, vol. ii. pp. 293, 308, 312, 319, 325, 326, 327, 329, and 330; also, "Report on the Examination of Medical Practitioners, etc., printed by the Royal College of Physicians," 1833, pp. 82-88.] The earliest doctors in Medicine who entered the Faculty of Physicians and Surgeons of Glasgow were two who were admitted in January 1645. The first doctor in Medicine who entered the Incorporation of Surgeons of Edinburgh, Christopher Irvine, was admitted 28th December 1658. He is first termed *Mr.*—a prefix which, in those times, indicated that he was Master of Arts, and which is invariably applied to him till 16th February 1669, when he is first called Doctor. But he had got his doctor's degree from some university long before, for his name appears in the published "Catalogue of Graduates in Arts, etc." of the University of Edinburgh, as having taken the degree of A.M. on 15th April 1645, and he is there designated "Medicinae Doctor." It is probable that the doctorate was in less esteem with the surgeons than the mastership in Arts; and that the attempt of the doctors in the year before he entered [see p. 20], may have caused them to give a preference to the title of M.A. over M.D. Dr James Nisbet was the only other doctor who entered with the Surgeons in the seventeenth century, but there were several graduates in Arts. [For the information and references contained in this note,—as to Aberdeen, I am indebted to Professor Struthers; as to Glasgow, to Professor Weir, and to Dr Weir, Secretary to the Faculty of Physicians and Surgeons; and as to St Andrews, by much the oldest of our universities, to Dr Oswald II. Bell, Professor of Medicine there. There was some little inaccuracy as to Christopher Irvine in the edition of this note which appeared in the Edinburgh Medical Journal for February 1864. This I have now corrected.]

<sup>1</sup> Pitcairn's Criminal Trials, vol. i. p. 124. Equal to 1s. 2d. sterling money.

of Casanate, the celebrated Cardan, whose name is now better known in algebra than in medicine, but who seems to have effected his cure.<sup>1</sup> Few Scotchmen could then have afforded the expense; but Hamilton was wealthy, and was also, politically, the most powerful man in Scotland. During the few weeks of his stay among us, Cardan was consulted by many distinguished Scotchmen. His ideas on Hamilton's case, on physiology, on dreams, on nativities, and on horoscopes, are subjects to which, curious and interesting as they are, I can here only allude. I find that, about the same time (20th March 1547), a letter was addressed by the Scotch regent to Edward VI. of England, requesting letters of safe-conduct in favour of Archibald Betoun (not improbably a relative of the cardinal, who had been murdered the year before), to enable him to travel through England to France, "for eounsel and help of medicinars."<sup>2</sup> Queen Mary Stuart had a French physician, according to what appears to have been the usage of the day among those who could afford one.<sup>3</sup> There is extant a letter from a M. Cognain, dated 23d April 1586, and addressed to M. De Courcelles, French ambassador to Scotland, in which the writer congratulates him on the recovery of his health, and sends him some rhubarb, some senna, and some aloes, with directions how to mix them.<sup>4</sup>

As time rolled on, the enterprising spirit of our countrymen impelled them to seek those opportunities of instruction, and those academical distinctions, which the schools of the Continent afforded, in order that they might no longer be superseded by foreigners. Accordingly, I find that, in the reign of James VI., both the physicians and the surgeons of the court were natives of Scotland.<sup>5</sup> But the poverty of Scotland in the sixteenth and seventeenth centuries, and the want of strength in the government to protect the

<sup>1</sup> Morley's Life of Jerome Cardan.

<sup>2</sup> Thorpe's Calendar of State Papers relating to Scotland, p. 62.

<sup>3</sup> Froude's History of England, vol. viii. p. 251.

<sup>4</sup> Thorpe, etc., p. 515. See Mr Robertson's preface to the *Inventaires*, etc., already quoted, p. lxiii. note 3, where the reader will find much more information as to the low state of the profession in Scotland, the opinion formed of it by the younger Sealiger, etc.

<sup>5</sup> Gilbert Skeyne was appointed in 1581 to be his physician, and lived in Niddry Street. Gilbert Primrois, and, at later dates, James Hervey, John Naysmith, and Archibald Hay, were his surgeons. See Minutes of the Surgeons at the dates of entry of the last three of these members; also, as to Nasmyth, the narrative given by King James of the Gowrie Conspiracy of 1600, in Peacock's Perth and its Annals and Archives,—Perth, 1849,—p. 213, and the "Inquisitiones speciales" regarding property in Scotland; for the county of Edinburgh, No. 347.

subject, were formidable impediments to the progress of the healing art. It may be easily conceived how very inadequate was its remuneration, when it is considered that King James was often at a loss for money to carry on what he very characteristically called his "king-craft." *Our* craft requires learning, leisure, and an expensive training. The advantages of a medical school could not be had at home; and though such things existed abroad, they were in a very unsatisfactory condition. Sylvius, the professor of anatomy at Paris prior to the middle of the sixteenth century, who has left his name impressed, as all medical men know, on a part of the cerebral structure, was well acquainted with human anatomy as far as then known, but is said to have taught anatomy from the dissection of the inferior animals.<sup>1</sup> All were alike ignorant, till long after, of the course of the circulating fluid, the knowledge of which was so vitally necessary to scientific progress.

The self-conceit of the physicians of those days took a dangerous direction, for they thought themselves the proper persons to govern the untitled members of the profession, and were therefore more likely to be acceptable to the Richelieus abroad, and to the Jameses and Charleses at home, who thought the "order observed in foreign nations in the like cases" to be "*convenient* and *comely*,"<sup>2</sup> than to the surgeons of Edinburgh, who had no particular reverence for their sacerdotal character. The abuses in the granting of degrees added to the quarrel. A physician of the old school, writing in 1658,<sup>3</sup> tells us that ignorant men, who knew nothing of Hippocrates or of Galen, were admitted to degrees on the mere strength of their facility in speaking Latin,—that degrees were sold, and that, from these causes, those of the Universities of France and of Italy were little valued. He adds, that in London, Bordeaux, and Montpelier, degrees were not accepted without re-examination, and that the most learned physicians submitted willingly to this as a necessary check on a gross abuse.

In the year of James the Sixth's visit to Scotland (1617), a few physicians then resident in Edinburgh endeavoured to persuade him to erect a College of Physicians. The scheme was brought forward in 1621, and was unsuccessful. A second attempt was made in

<sup>1</sup> Morley's Life of Cardan, vol. ii. p. 100. The same practice prevailed in the University of Aberdeen when Dr W. Gordon was professor there—*i. e.*, prior to 1636—[See Chambers' Domestic Annals of Scotland, vol. ii. p. 96].

<sup>2</sup> "Report on the Examination of Medical Practitioners, etc., 1833,—Printed by the Royal College of Physicians, page 2.

<sup>3</sup> Jacobus Primerosius; "De Vulgi erroribus in Medicina."

1633, when Charles I. came to Scotland, and was also defeated. In the former project *seven* physicians, and in the latter *nine*, were to have constituted a college, with power to fill up all gaps in their own number, and to regulate all the medical, surgical, and pharmaceutical interests of Scotland. The obvious absurdity of those projects was probably the principal cause of their failure. A private letter of 1633, communicated to me by Mr Fraser, gives an account of proceedings in the Scotch Parliament in the following terms:—"The phisicians craivit to have a College erctit, and that none wer approvin without their approbatioun, and no stranger to give phisik without their approbatioun; efter long disputt, refusit to be anc article." A similar project in Cromwell's time was described in my address of 1860; but I was not then aware of the depths of degradation which the Surgeons escaped by its failure in 1657. It appears that besides their hostility, it roused that of the Faculty of Physicians and Surgeons of Glasgow, of the universities, and more particularly of the University of Aberdeen; and that a conference was held by its projectors at Dundee, with some representatives of that northern seminary. At this meeting various matters deeply affecting the Surgeons were very harmoniously arranged *in their absence*. It was the determination of those high contracting parties that the Surgeons should in future be limited to cutaneous and external diseases, "so long as these remained simply such, and did not recur;" if they did recur, "the assistance of one of the College or their licentiates" was to be called for; they were to "have liberty to cure *lues venerea*," but not "to put hand to women in dangerous labours of childbed, nor use instruments for the drawing forth of births, without the advice of the physicians aforesaid, except in absolute necessity of time and place where physicians cannot be had." The surgeons were to be allowed, in certain cases, to practise venesection; and, "in cases of necessity, where the distance of place will not admit the present help of a physician," it was to be "leisome" to them "to administer a clyster till a physician may be had."<sup>1</sup> It is not wonderful that, to use the words of a contemporary private letter, the surgeons made "a buzzing and a stour;" for they were "not wood," they were "not stones, but men,"<sup>2</sup> and the project was for them nothing short of annihilation as a body, and subjection, as individuals, to

<sup>1</sup> "Report on the Examination of Medical Practitioners," already quoted, pp. 18, 19. The structure of the sentence seems to imply that if the "present help of a physician" could be had, this office was not to have been "leisome" to the surgeon.

<sup>2</sup> Julius Cæsar.

the caprices of a pragmatic and irresponsible despotism. We, the graduates of modern times, have learned to be less vain of our doctor's cap, as well as of our Greek,—with which latter, I grieve to say, there are among us some who dispense altogether, and who contrive to do with such a modicum of Latin as would have horrified King James and the doctors of his and of Cromwell's day.

It is agreeable to turn from those degrading conspiracies to the event of a quarter of a century later, the establishment of our Royal College of Physicians on far more rational principles. Sir Robert Sibbald, its principal founder, had profited by the errors and failures of the preceding attempts.<sup>1</sup> But it was not to be expected, after what I have told you, that his object could be effected without raising jealousies in certain quarters.

Graduates, both in Arts and in Medicine, had, in the interval, begun to enrol themselves in the ranks of the Surgeons. One of these was Dr Christopher Irvine, who, being an author, which few then were, is perhaps worthy of a brief notice. This gentleman tells us that he was turned out of “a plentiful patrimony in Ireland by the troubles in that kingdom,” and also “out of the College [University] of Edinburgh, by the Covenant,” and that he was imprisoned, and obliged for his subsistence to teach grammar. By the favour of James the Seventh, he was compensated for these losses, by the office of historiographer for Scotland, and also by that of first physician to his Majesty. In 1656, he published his “*Medicina Magnetica*;” a very different thing from what its title would suggest to us. It is dedicated to General Monk, and contains one hundred aphorisms, not one of which can possibly be admitted, twelve conclusions equally inadmissible, and a hopeful application of both of these to his method of cure by what he calls “magical physic.” His sense of the value of his own labours is thus expressed in an address to the reader,<sup>2</sup> “If thou be candid, I am glad to serve thee, and am confident in these books thou shalt find things both rare and delectable. But if thy nature or principle make thee froward, injoy thyself, and provide such kick-shaws as

<sup>1</sup> Sir Robert, writing of the attempt of 1657, ascribes it to Dr George Purves, whom he characterizes as a man of great parts, and of much boldness and vivacity of spirit; and who was of a “pragmatic temper, and did not spare charges for to accomplish the design.” See “Report on the Examination of Medical Practitioners,” p. 8.

<sup>2</sup> P. 96.

will fit thy pallet, for Christy hath served up this dish only for his own faney and his friends' recreation." He sought immortality by two other *mortal* publications, not medical, which establish his claim to a considerable amount of scholarship, with no small share of eccentricity.<sup>1</sup> He was very jealous of the erection of the Royal College of Physicians, and applied to the Privy Couneil, setting forth his education, his degrees, his army commissions, and his serviees, as reasons why they should not suffer him "to be stated under the partial humours or affronts of the new College, composed of men altogether his juniors (save Dr Hay) in the studies of philosophie and practise of physick." This was granted by the Council, and was afterwards confirmed, in 1685, by an Act of the Seoteli Parliament.<sup>2</sup> Christopher, who, in the title page of one of his publications designates himself "abs Bon Boseo," was the proprietor of the estate of *Bonshaw*. It was probably not without good reason that he was superseded in his offices by the government of King William, for the restoration government had many favourites whose zeal in its service was their chief merit, and I believe Christopher to have been one of this description.

There is a minute of the Surgeons on 7th April 1688, some months before the Revolution, which, as it shows the working in this city of the intrigues of James the Seventh, may be worthy of a short mention. That most unprincipled and heartless monarch, whose boots and thumbikins had been applied to the agonized limbs of Seoteli Presbyterians in his own royal presence only nine years before, having failed in his attempts to combine the Churches of England and Rome against the Presbyterians, was now desirous to procure the assistance of the Presbyterians against the Chureh of England ; and for this purpose had proclaimed, only three days before, and that in direct opposition to Acts of the Parliament, his resolution to tolerate by his Royal prerogative the worship of Roman-catholices and of Presbyterians, and of all others. In these

<sup>1</sup> "Bellum Grammaticale," which is a sort of a drama in Latin, ineffectively humorous, the subject of it being the Principles of Grammar; Edinburgh 1652. It is dedicated to Dr George Sibbald, uncle to Sir Robert Sibbald the founder of the Royal College of Physicians. Also "Historiae Scoticæ nomenclatura Latino-vernacula," which is devoted to the explanation of Seoteli names of persons and places, and which is dedicated to the Duke of York, afterwards James VII.; Edinburgh, 1682. He had two sons, one of whom, James, was a surgeon in Dumfries; the other, Christopher, is designated of Castle Irving in Ireland, and was, therefore, probably the elder.

<sup>2</sup> See the Acts of the Parliament of that date.

circumstances, Robert Cheishe and Robert Halyburton, merelants in Edinburgh, applied to the Surgeons in behalf of the "Colledge and Tron Kirk parishes," for the use of "the old house belonging to the said ealling that is now ruinous," which, "if the samyn were rebuilt," might serve them as a place of worship. In the petition it is amusing to read that "the Kingis most excellent Majesty, by his several declarations and proelamations, has been gracieously pleased to allow unto them full libertie to meet and serve God in their own way," with much more to the same effect. It was well for Mr Cheislie and his friend that recent facts, and espeially the boots and thumbikins of Holyrood, and the doings of King James' particular friend, Judge Jeffreys, at the Bloody Assize, though forgotten by them, were remembered by many both in Scotland and in England.

Those who have read my aecount of the history of this College may remember Alexander Menteith, a member of ours, distinguished as a teacher of anatomy as early as 1694, and of chemistry as early as 1697,<sup>1</sup> the leading surgeon, moreover, of his day, and who may justly be regarded as distinguished among those who prepared, if they did not actually lay, the foundations of our medical school. A few things whieh I have since diseovered regarding him will no doubt be acceptable to you. I may remind you that he was deprived of his offices—those of chairman of the Surgeons, Town-councillor, and Convener of the Trades—by a strong act of the Government, whieh I then assigned my reasons for suspecting to have arisen from his being too keen a partisan of the Stuarts to be safe for King William. In confirmation of this theory of mine, I find that he was son of James Menteith<sup>2</sup> of Auldcathie, the representative of the sceond or Stuart line of Earls of Menteith, who were staunch friends of the old royal family of Scotland, and that his elder brother James married the heiress of Binns, granddaughter to General Dalyell of Bothwell Bridge celebrity. I have further to say, that he bought, in 1707, the estate of Todshaugh, now Foxhall, in Linlithgowshire, which he disposed, four years after, to his eldest daughter Elizabeth, and to her husband John Carre, Advocate; and that one of his lineal deseendants in the fifth generation is Mr Walter Riddell Carrc of

<sup>1</sup> His lease of the chemical laboratory at the Surgeons' Hall is dated 16th April 1697.

<sup>2</sup> The Auldeathie Menteiths were descended from a son of Alexander, Earl of Menteith, through Sir William Menteith of Kerse, and his son Alexander Lochend.

Cavers Carre, who is now present, and whom I have the pleasure of introducing to the College. Menteith's estate of Todshaugh seems to have some elective attraction for medical families, for it is now the property of Colonel Duncan, grandson of Dr Andrew Duncan, senior, Professor of Theory of Physie in the University. Menteith died 23d December 1713, a few weeks after his friend Dr Pitcairn.

Having yet some things to tell you of the early days of our medical school, I am under the necessity of reminding you that its birth was in the old hall of this College in 1697 ; that anatomy and chemistry were taught in that hall from the first, the former by members of our body called "operators ;" that we were bound by our engagement with the Town-council, who gave us facilities for procuring subjects, to give a public anatomical demonstration every year ; that in 1705 we appointed our first professor of anatomy ; that, some time after, he received £15 a-year from the University funds, which salary was continued to his successors ; and that the medical school was completed after 1720, by the assistance of some energetic Fellows of the Royal College of Physicians, and, thus completed, was transferred to the University from our buildings in 1726. There is a very interesting minute of the Surgeons, dated 18th May 1704, which shows in what an earnest spirit our bargain with the Town-council was carried out at that early date. It is a vote of thanks to the "operators" who had conducted a course of public demonstrations in the previous April. The names and subjects are thus enumerated :—"The first day, James Hamilton—a discourse on anatomie in generall, with a dissection and demonstration of the common teguments and muscles of the abdomen. The second day, John Mirrie—the umbilicus, omcentum, peritoneum, stomach, pancreas, intestines, vasa lactea, mesentery, receptaculum chyli, and ductus thoracicus. The third day, Mr<sup>1</sup> Alexander Nisbet—the liver, vesica fcellis, with their vessels, spleen, kidneys, glandulæ renales, ureters, and bladder. The fourth day, George Dundas—the organs of generation in a woman, with a discourse of hernia. The fifth day, Robert Swintoun—the containing and contained parts of the thorax, with the circulation of the blood and respiration. The sixth day, Henry Hamilton—the hair, teguments, dura and pia mater, cerebrum, cerebellum, medulla oblongata, and nerves within the head. The seventh day, Robert Eliot—the five externall senscs, with a demonstration of their severall organs. The

<sup>1</sup> The prefix *Mr* is uniformly applied to this gentleman. See note to p. 17.

eighth day, John Jossy—the museles of the neek and arm, with a diseourse on museular motion. The ninth day, Walter Potter—the museles of the baek, thigh, and legg. The epilogue or eonelusion by Dr Arehibald Piteairn.”<sup>1</sup>

You will please to observe that these doings preeeded the appointment of Eliot, one of the “operators” named, to be the first professor of anatomy in Edinburgh. By him and his three immediate sueessors the business of anatomical instruption was eonducted during a long period of civil eommotion and danger, arising from plots got up in foreign eountries in favour of the Stuarts. Every friend to our dearly bought liberties felt that he might again have to fight for them. The thunders of Sheriffmuir had seareely eaeased to wake the echoes of the neighbouring Oehills, when fresh conspiracies of Spain and its minister, Alberoni, excited our alarms. A deseent was made in the West Highlands in 1719, and another plot was discovered in 1722, for whieh Bishop Atterbury was attainted. The Edinburgh friends of the Revolution settlement elung to the aneient constitution of the eity, and even to its aneient defenees, the North Loeh, and the Flodden wall, and felt that, with all their defects, they might be useful rallying points in a season of danger.

The seeond Alexander Monro, in a memoir of his father, written in 1781, in the midst of a country long enjoying the blessings of peace and of a settled government, ignores altogether the difference of the times. The munieipal government of Edinburgh had by that time eaeased to have so important a relation to our medieval and other interests. He tells us that on his father’s return to Edinburgh, “Messrs Drummond and M’Gill, who were the eonjunet *nominal* professors and demonstrators of anatomy to the *Surgeons’ Company*, offering to resign in his favour, *he found himself under the necessity of entering a member with them.*”<sup>2</sup>

Now there are three errors in this aeeount, for,—1<sup>st</sup>, Drummond and M’Gill were not “*nominal* professors,” but as real professors as his father or himself, though not, like them, *ad vitam*; 2<sup>d</sup>, “The *Surgeons’ Company*” never was the designation of the body of whieh he speaks; and, 3<sup>d</sup>, his father was under no other “necessity of entering a member” with the Surgeons than he himself was of entering the University; the neeessity, as his father and grandfather, both of them very zealous members of ours, would, I am sure, have

<sup>1</sup> Portraits of all these gentlemen were exhibited, with the exception of Eliot, of whom, unfortunately, there is no picture.

<sup>2</sup> The italics are mine.—J. G.

readily admitted, being that of doing the very best thing to promote his own interest; for he got the only anatomical theatre in Edinburgh for his prelections, and he got as his pupils the apprentices of the Surgeons, the proprietors of that theatre.<sup>1</sup> But the explanation of these disparaging expressions is intelligible enough. About four years before this memoir was written, the Surgeons were desirous to have surgery taught in the University by a separate professor, and their memorial to the Crown for that purpose was defeated by the second Alexander Monro, who had also influence enough with the patrons of the University to get a new commission issued to himself, making him professor of surgery as well as of anatomy;<sup>2</sup> and for more than half a century thereafter surgery was taught as a mere appendage to the university-course of anatomy.

The professors belonging to the Royal College of Physicians to whom I have alluded as having taught at the school in the Surgeons' Hall between 1720 and 1726, were Doctors Andrew Sinclair and John Rutherford, professors of the theory and practice of medicine, and Doctors Andrew Plumier and John Innes, professors of medicine and chemistry. On the 9th February 1726, these very eminent physicians applied to the Town-council to be appointed professors in the University on the same footing on which their colleague Monro had been appointed several years before, but without salaries. Their petition was granted. The medical school, which has been of so much advantage to this city, was thus completed by the almost unaided labours of the physicians and surgeons of Edinburgh. A prodigious boon was conferred by them on this city and its University; and yet there exists in the very minute of the appoint-

<sup>1</sup> I have felt constrained to rectify these errors, because they are injurious to the fair fame of those who founded our medical school, and because they have been copied into almost all the biographies of the first Alexander Monro which are to be found in Encyclopedias and similar works.

<sup>2</sup> Minutes of the Town-council of 16th July and 6th August 1777. He stated to the patrons that, though it was not expressed in his commission, "the teaching of surgery has been universally understood to belong to his office," which was constituted "on the plan of the then most celebrated University of Leyden." His application was supported by the principal and the medical professors, and his appointment as professor of surgery was protested against by Alexander Hamilton, the chairman of the Surgeons, on the ground, *inter alia*, that "as the surgeon must be formed by witnessing the practice in the living body," the professor "could not give the rudiments" of the art of surgery, and "that no man can teach both branches completely within the usual period of a course."

ment of these four professors a curious proof that, in some jealous quarter or other, the value of the boon was little understood or appreciated. For it was provided that Sinclair and Plummer should have the privilege “to deliberate and vote with the other professors in their college affairs till 1st March 1727,” and that Rutherford and Innes should enjoy the same privilege for the succeeding year, and so on alternately. Who the authors of this stipulation were, I cannot tell, nor is it worth while to inquire. It is quite enough to know that the labours of the medical men, like those of other benefactors of mankind, were not understood, and not duly valued by some of their contemporaries who ought to have known better.<sup>1</sup>

I have now to bring to a close this address, which I fear has extended to too great a length, though I have suppressed many smaller things for fear of tiring out your patience. It seems to me to be good occasionally to unroll the pages of the past, and to endeavour to discover the successive steps by which the existing state of things has been brought about. Though sufficiently conscious that my task could have been much better performed by one more familiar with historical and antiquarian research, yet I confess to some share of enthusiasm in my subject, and have much more sympathy with a Monk barns who finds traces of Agrieola’s camp in “a wee-bit bourock,” than with that worldly-minded absorption of the whole soul in the din and strife of the passing moment, which leaves no room for a thought on the lessons of the past or on the prospects of the future; no gratitude for the blessings of an advanced civilisation conferred on us through the labours of successive generations, and no desire to leave this world to others better than we found it. Were such apathy universal, it would furnish an excellent argument to those great antiquaries, who, with astounding humility, have been endeavouring to trace the parentage of the lords of the creation to the chimpanzee and the gorilla.

<sup>1</sup> This absurd limitation of the right of voting was, at the request of the four professors, rescinded by the patrons on 26th February 1729.







*Fig. 1*



*Fig. 2*

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MALIGNANT FIBRO-CELLULAR TUMOUR.